

**Attachments to the Supplemental Comment and Request for Correction
on EPA's and NHTSA's Proposed SAFE Rule
Submitted May 31, 2019**

Submitted by Center for Biological Diversity; Environmental Defense Fund; Natural Resources Defense Council; Public Citizen, Inc.; and Union of Concerned Scientists

Attn: Docket No. EPA-HQ-OAR-2018-0283, Docket Nos. NHTSA-2018-0067, 2017-0069

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IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF NEW YORK

NATURAL RESOURCES DEFENSE
COUNCIL and
ENVIRONMENTAL DEFENSE FUND,

Plaintiffs,

v.

UNITED STATES ENVIRONMENTAL
PROTECTION AGENCY,

Defendant.

Case No. 18-cv-11227
ECF Case

COMPLAINT FOR DECLARATORY AND INJUNCTIVE RELIEF

In April 2018, Defendant U.S. Environmental Protection Agency (EPA) notified the public of its intent to revise light-duty vehicle greenhouse gas emission standards for future model years. In advance of that proposed rulemaking, and to enable meaningful public comment on highly-technical standards, Plaintiffs Natural Resources Defense Council (NRDC) and Environmental Defense Fund (EDF) submitted to EPA a request pursuant to the Freedom of Information Act (FOIA), 5 U.S.C. § 552. Plaintiffs requested certain limited agency records relating to the technological feasibility of greenhouse gas emission standards—records of the sort that EPA has historically made public as a matter of course. EPA failed to respond by FOIA’s clear statutory deadline. EPA then continued to violate FOIA for months—withholding the requested records through the entire public comment period for the proposed rule—despite repeated calls for disclosure. EPA is breaking the law and denying access to records of clear and immediate public interest.

INTRODUCTION

1. In 2009, EPA determined that emissions of greenhouse gases from new motor vehicles cause or contribute to air pollution that endangers the public health and welfare. EPA subsequently undertook to establish greenhouse gas emission standards for light-duty vehicles pursuant to the Clean Air Act.

2. To assess the cost and effectiveness of technologies needed to meet these standards, EPA developed a computer model called the Optimization Model for reducing Emissions of Greenhouse gases from Automobiles (OMEGA).

3. EPA relied on OMEGA and its outputs to support rulemakings establishing light-duty vehicle greenhouse gas emission standards for every model year from 2012 through 2025. Throughout these various rulemakings, EPA updated OMEGA and its input data to reflect the latest technological developments. As it revised and updated OMEGA, EPA publicly released revisions of the model source code, input data, and documentation. EPA last publicly released OMEGA source code in 2016. However, EPA has continued to revise OMEGA and its inputs since then.

4. In April 2018, EPA notified the public of its intent to initiate notice and comment rulemaking to revise light-duty vehicle greenhouse gas emission standards for upcoming model years. 83 Fed. Reg. 16,077 (Apr. 13, 2018). Following this announcement and in advance of the proposed rulemaking, NRDC and EDF jointly requested that EPA release OMEGA-related records pursuant to the Freedom of Information Act.

5. EPA received the FOIA request on or before August 10, 2018. FOIA requires an agency to substantively respond to a FOIA request within twenty business days. EPA did not substantively respond by this deadline.

6. On August 24, 2018, EPA published a proposed rule that would reduce the stringency of light-duty vehicle greenhouse gas emission standards for multiple model years starting with model year 2021 vehicles. 83 Fed. Reg. 42,986 (Aug. 24, 2018). Unlike every prior rulemaking establishing light-duty vehicle greenhouse gas emission standards, EPA did not rely on OMEGA in the August 2018 proposal, instead ostensibly relying on another model, Volpe, utilized by the National Highway Traffic Safety Administration (NHTSA) to set fuel economy standards. EPA nevertheless continued to utilize OMEGA and to update OMEGA and its inputs. During the public comment period for the proposal, multiple commenters, including Plaintiffs, noted deficiencies with Volpe and suggested that EPA should validate aspects of the proposal using its latest OMEGA model.

7. Despite repeated requests from Plaintiffs and others, including the State of California, EPA continued to withhold the requested OMEGA-related records through the entire public comment period.

8. The public has a strong interest in the government's implementation of environmental and health laws. EPA has announced its intention to finalize its rule in March 2019. EPA's ongoing failure to release its OMEGA-related records deprives the public of information relevant to assessing the agency's rulemaking. This failure does not just demonstrate a troubling lack of transparency by EPA—it

is flatly unlawful under FOIA. Plaintiffs NRDC and EDF bring this action to compel EPA to follow the law and disclose these records immediately.

PARTIES

9. Plaintiff NRDC is a national, non-profit environmental and public health membership organization with hundreds of thousands of members. NRDC engages in research, advocacy, public education, and litigation related to protecting public health and the environment. NRDC is a not-for-profit, tax-exempt organization incorporated under the laws of the State of New York with its headquarters in New York City.

10. Plaintiff EDF is a non-profit environmental organization with more than two million members and supporters. Established in 1967, EDF seeks to solve some of the most critical environmental problems facing humanity, including climate change, pollution, and toxic chemical exposure, and to educate the public about these problems. Among EDF's highest priorities is ensuring that EPA fulfills its critical mission in a manner that is transparent, ethical, fact-based, and free from undue influence. EDF is a not-for-profit, tax-exempt organization incorporated under the laws of the State of New York, with headquarters in New York City and offices in eight other cities across the United States.

11. Defendant EPA is a federal agency within the meaning of FOIA, 5 U.S.C. § 551(1), and has possession or control of the records Plaintiffs seek.

JURISDICTION AND VENUE

12. This Court has jurisdiction over this action pursuant to 28 U.S.C. § 1331 and 5 U.S.C. § 552(a)(4)(B).

13. Venue is proper in this district because Plaintiffs NRDC and EDF reside and have their principal places of business in this judicial district. 5 U.S.C. § 552(a)(4)(B).

STATUTORY FRAMEWORK

14. FOIA requires that federal agencies release information to the public, upon request, unless one of nine statutory exemptions from disclosure applies. 5 U.S.C. § 552(a)-(b).

15. Within twenty business days of an agency's receipt of a FOIA request, the agency must issue a determination resolving the request, and must "immediately notify" the requester of "such determination and the reasons therefor." 5 U.S.C. § 552(a)(6)(A)(i)(I).

16. An agency must "promptly" release requested, non-exempt records requested in accordance with FOIA. 5 U.S.C. § 552(a)(6)(C)(i).

17. In "unusual circumstances," an agency may extend the twenty-day time limit for responding to a FOIA request by up to ten business days. 5 U.S.C. § 552(a)(6)(B)(i). Any such extension must be "by written notice" to the requester, "setting forth the unusual circumstances for such extension and the date on which a determination is expected." *Id.*

18. If the agency fails to comply with the statutory time limits, the requester is deemed to have exhausted her administrative remedies and may immediately file suit. 5 U.S.C. § 552(a)(6)(C)(i).

19. FOIA grants federal district courts the authority to enjoin an agency from withholding agency records and “to order the production of any agency records improperly withheld.” 5 U.S.C. § 552(a)(4)(B).

FACTS

EPA’s OMEGA Model

20. In 2009, EPA determined that emissions of greenhouse gases from new motor vehicles cause or contribute to air pollution that endangers the public health and welfare. 74 Fed. Reg. 66,496 (Dec. 15, 2009). Pursuant to the Clean Air Act, EPA then undertook to develop and finalize, for the first time, greenhouse gas emission standards for new motor vehicles. 75 Fed. Reg. 25,324 (May 7, 2010).

21. A “critical technical underpinning” of EPA’s analysis of the feasibility and cost of potential greenhouse gas standards was the agency’s estimate of the cost and effectiveness of emission control technologies. *Id.* at 25,329.

22. To assess the cost and effectiveness of emission control technologies, EPA developed a computer model called the Optimization Model for reducing Emissions of Greenhouse gases from Automobiles (OMEGA).

23. OMEGA projects the technology cost for automobile manufacturers to meet various fleet-wide levels of greenhouse gas emissions.

24. OMEGA utilizes sets of input data, including:
 - i. a description of manufacturers' vehicle fleets;
 - ii. a description of available emission control technologies, primarily their cost and effectiveness;
 - iii. vehicle operational data, such as scrappage rates (the rates at which vehicle owners discontinue use of their vehicles);
 - iv. economic data, such as fuel prices and discount rates; and
 - v. a description of the emission standards being modeled.

With these various inputs, OMEGA projects how manufacturers would apply available technologies to meet emission standards. *See id.* at 25,452-54.

25. In May 2010, EPA promulgated greenhouse gas emission standards for model year (MY) 2012-2016 light-duty vehicles. *Id.* at 25,324. EPA utilized OMEGA and its outputs in setting these standards. During the rulemaking process, EPA publicly released the then-current version of OMEGA. EPA also released associated model input data and documentation.

26. EPA periodically revises OMEGA source code.

27. EPA periodically revises OMEGA input data.

28. EPA utilized the then-current OMEGA model and its outputs to inform every analysis of light-duty vehicle greenhouse gas emission standards from the inception of standards until at least last year, including:

- i. A September 2010 technical assessment report prepared to inform setting standards for MY 2017 and beyond, issued jointly with NHTSA and the California Air Resources Board (CARB);¹
- ii. A December 2011 proposed rule to establish standards for MY 2017-2025 light-duty vehicles;²
- iii. An October 2012 final rule establishing the MY 2017-2025 standards;³
- iv. A July 2016 technical assessment report prepared to evaluate the continued feasibility of later-year standards (MY 2022-2025), issued jointly with NHTSA and CARB;⁴
- v. A November 2016 proposed determination that the MY 2022-2025 standards continue to be appropriate;⁵ and

¹ EPA, NHTSA, & CARB, *Interim Joint Technical Assessment Report: Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards for Model Years 2017-2025* (Sept. 2010).

² EPA & NHTSA, Proposed Rule: *2017 and Later Model Year Light-Duty Vehicle Greenhouse Gas Emissions and Corporate Average Fuel Economy Standards*, 76 Fed. Reg. 74,854 (Dec. 1, 2011).

³ EPA & NHTSA, Final Rule: *2017 and Later Model Year Light-Duty Vehicle Greenhouse Gas Emissions and Corporate Average Fuel Economy Standards*, 77 Fed. Reg. 62,624 (Oct. 15, 2012).

⁴ EPA, NHTSA, & CARB, *Draft Technical Assessment Report: Midterm Evaluation of Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards for MY 2022-2025* (July 2016).

⁵ EPA, *Proposed Determination on the Appropriateness of the Model Year 2022-2025 Light-Duty Vehicle Greenhouse Gas Emissions Standards under the Midterm Evaluation* (Nov. 2016).

vi. A January 2017 final determination to maintain the MY 2022-2025 light-duty vehicle greenhouse gas emission standards.⁶

29. Throughout these proceedings, EPA has repeatedly released the then-current OMEGA model and its inputs to the public. EPA released these records in the form of downloadable software and data files on its website.

30. Various members of the public, Plaintiffs included, have the capability to utilize OMEGA and have used this capability to independently and publicly assess past EPA analyses.

31. EPA released at least five different revisions of OMEGA and associated source code, along with documentation, inputs and outputs, over the period 2009 to 2017. As of December 3, 2018, these legacy records remain available on EPA's public website at <https://www.epa.gov/regulations-emissions-vehicles-and-engines/optimization-model-reducing-emissions-greenhouse-gases>.

32. EPA last publicly released the OMEGA model source code in July 2016.

33. EPA has revised the OMEGA model source code since the July 2016 public release.

34. EPA utilized OMEGA in preparing an April 2018 presentation for the Office of Information and Regulatory Affairs.

⁶ EPA, *Final Determination on the Appropriateness of the Model Year 2022-2025 Light-Duty Vehicle Greenhouse Gas Emissions Standards under the Midterm Evaluation* (Jan. 2017).

35. The OMEGA model that EPA utilized to prepare this April 2018 presentation was not the same version as the OMEGA model publicly released in July 2016.

36. The current OMEGA source code is not publicly available.

37. EPA last publicly released significant OMEGA input data in November 2016. EPA released a limited set of input files in April 2017 and October 2018, but it did not release a complete set of input data at those times.

38. Since the November 2016 public release of input data, EPA revised some OMEGA input data in addition to the data released in April 2017 and October 2018.

39. A March 2017 EPA presentation represented that updates to OMEGA were underway. *See* <https://www.epa.gov/sites/production/files/2017-03/documents/fuel-economy-detroit-2017-03-16.pdf>.

40. EPA used its Advanced Light-Duty Powertrain and Hybrid Analysis (ALPHA) modeling to revise technology effectiveness input values for OMEGA since November 2016.

41. EPA staff described some revisions to its process for determining technology effectiveness in an April 2018 paper titled “Representing GHG Reduction Technologies in the Future Fleet with Full Vehicle Simulation.” *See* <https://www.epa.gov/sites/production/files/2018-10/documents/sae-paper-2018-01-1273.pdf>.

42. The technology effectiveness methodology described in the April 2018 paper is not the same methodology utilized in EPA's November 2016 data release.

43. The current set of OMEGA input data is not publicly available.

NRDC and EDF Request that EPA Disclose Recent OMEGA Records

44. On March 20, 2018, Plaintiffs and others submitted a letter to EPA Assistant Administrator William Wehrum requesting that EPA release updated OMEGA-related records. EPA did not reply to this letter.

45. In April 2018, EPA informed the public that the agency intended to initiate a notice and comment rulemaking concerning light-duty vehicle greenhouse gas emission standards for upcoming model years. EPA did not release any updated OMEGA-related records at the time of this notice.

46. In a July 2018 presentation to the National Academy of Sciences, EPA represented that the agency's recent work included technology/cost optimization modeling with OMEGA.⁷

47. With EPA still failing to make OMEGA and its current inputs publicly available, NRDC and EDF submitted a FOIA request to EPA (the "FOIA request," dated July 25, 2018, attached hereto as Exhibit A).

48. EPA received the FOIA request on or before August 10, 2018. EPA assigned the FOIA request a tracking code, EPA-HQ-2018-010465.

⁷ See EPA Presentation (July 16, 2018), <https://www.regulations.gov/document?D=EPA-HQ-OAR-2018-0283-0771>.

49. The FOIA request sought recent OMEGA-related records, including specifically:

- i. “Any and all versions of [OMEGA] not previously made public” including “source code,” “documentation,” and “decision trees”;
- ii. “Any and all input files” for OMEGA including data supporting inputs for “baseline fleet(s)” and the “effectiveness,” “costs,” and “penetrations” of emission control technologies;
- iii. “The methodology . . . used to develop” technology effectiveness inputs;
- iv. “Data and analysis regarding” model assumptions for the “timing” of vehicle “redesign and refresh cycles”;
- v. Any records indicating the method “used to convert” empirical data “into inputs to the OMEGA models”;
- vi. Any data, analysis, or models regarding related vehicle operational data, such as “scrapage rates,” and economic data, such as “sale prices”; and
- vii. Any data or analysis on “the impact of vehicle fuel economy and/or vehicle price on the amount of driving done by vehicle operators.”

50. In the FOIA request, NRDC and EDF asked that EPA grant a public interest waiver, pursuant to 5 U.S.C. § 552(a)(4)(A)(iii), of any fee EPA would otherwise charge for searching for and producing the requested records.

51. On August 21, 2018, EPA sent a letter regarding the FOIA request to NRDC (attached hereto as Exhibit B).

52. In the August 21, 2018 letter, EPA granted the fee waiver. EPA also represented that the FOIA request would be processed as expeditiously as possible. The letter did not include any determination by EPA regarding whether EPA would comply with the FOIA request. The letter also did not include any written notice setting forth unusual circumstances for an extension of FOIA's statutory response times.

53. On August 24, 2018, EPA published a proposed rule that would revise light-duty vehicle greenhouse gas emission standards for model years 2021-2025.

54. EPA set the public comment period for the proposal at sixty days. Multiple parties, including Plaintiffs, requested that EPA extend the public comment period by at least sixty days. EPA ultimately extended the public comment period by three days.

55. September 10, 2018, was the twentieth day (excepting Saturdays, Sundays, and legal public holidays) after EPA received the FOIA request.

56. EPA did not inform Plaintiffs by September 10, 2018, of EPA's determination regarding whether it would comply with the FOIA request.

57. On September 20, 2018, Plaintiffs and others sent a letter to EPA Assistant Administrator William Wehrum requesting that EPA release previously-requested OMEGA-related data and documents (attached hereto as Exhibit C). The letter noted that EPA had still not released any records in response to Plaintiffs'

FOIA request. The letter noted Plaintiffs' concern "that the records will not be released through FOIA in time to allow for meaningful review and analysis before the public comment deadline." EPA did not reply to this letter and did not release the requested records.

58. In public comments submitted in October 2016, Plaintiffs and other members of the public renewed calls for EPA to disclose OMEGA-related records.

59. The public comment period for the proposed rule closed on October 26, 2018.

60. As of December 3, 2018, the FOIAonline.gov website page for Plaintiffs' FOIA request, tracking code EPA-HQ-2018-010465, provided an estimated date of completion for the FOIA request of September 26, 2018.

61. As of December 3, 2018, the FOIAonline.gov website page for tracking code EPA-HQ-2018-010465 provided the final disposition of the FOIA request as "undetermined."

62. As of December 3, 2018, EPA had not notified NRDC of EPA's determination of whether it will comply with the FOIA request and EPA's reasons therefor.

63. As of December 3, 2018, EPA had not notified EDF of EPA's determination of whether it will comply with the FOIA request and EPA's reasons therefor.

64. As of December 3, 2018, EPA had not provided written notice to NRDC of unusual circumstances to extend the FOIA statutory response times.

65. As of December 3, 2018, EPA had not provided written notice to EDF of unusual circumstances to extend the FOIA statutory response times.

66. As of December 3, 2018, EPA had not released any of the records requested in the FOIA request.

67. As of December 3, 2018, EPA had not released all of the records requested in the FOIA request.

CLAIM FOR RELIEF

COUNT ONE 5 U.S.C. § 552(a) (FOIA)

68. Plaintiffs incorporate by reference all preceding paragraphs.

69. Plaintiffs have a statutory right under FOIA to obtain immediately all records responsive to their FOIA request that are not exempt from disclosure.

70. EPA violated its statutory duty under FOIA, 5 U.S.C. § 552(a), to release all non-exempt requested records to Plaintiffs.

REQUEST FOR RELIEF

Plaintiffs NRDC and EDF respectfully request that the Court enter judgment against Defendant EPA as follows:

A. Declaring that EPA has violated FOIA by failing to timely provide a final determination on Plaintiffs' FOIA request, and by failing to timely produce non-exempt records requested by Plaintiffs;

B. Ordering EPA to disclose all requested records without further delay, and without charging search or duplication fees;

C. Retaining jurisdiction over this case to rule on any assertion by EPA that any requested records are exempt from disclosure;

D. Ordering EPA to produce an index identifying any responsive records that EPA withholds as exempt from disclosure, and the basis for the withholding, promptly upon determining to withhold such records;

E. Awarding Plaintiffs their costs and reasonable attorneys' fees; and

F. Granting such other relief that the Court deems just and proper.

Dated: December 3, 2018

Respectfully submitted,

/s/Pete Huffman

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UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK

NATURAL RESOURCES DEFENSE COUNCIL
and ENVIRONMENTAL DEFENSE FUND,

Plaintiffs,

-v-

UNITED STATES ENVIRONMENTAL
PROTECTION AGENCY,

Defendant.

18 Civ. 11227 (RWS)

ANSWER

Defendant the United States Environmental Protection Agency (“EPA” or “Defendant”), by its attorney, Geoffrey S. Berman, United States Attorney for the Southern District of New York, hereby answers the complaint under the Freedom of Information Act (“FOIA”) of Plaintiffs Natural Resources Defense Council and Environmental Defense Fund (together, “Plaintiffs”) upon information and belief as follows:

The prefatory paragraph preceding paragraph 1 consists of Plaintiffs’ characterization of their claims in this suit, as well as a characterization of alleged background information, not allegations of fact pertinent to the resolution of the claims at issue in this FOIA action, to which no response is required. To the extent this paragraph contains factual allegations to which a response is deemed required, EPA denies the allegations in this paragraph, except admits that

Plaintiffs submitted a FOIA request to EPA and avers that EPA's review and processing of records potentially responsive to Plaintiffs' FOIA request are ongoing.

1. Paragraph 1 consists of Plaintiffs' characterization of alleged background information, not allegations of fact pertinent to the resolution of the claims at issue in this FOIA action, and of materials published in the Federal Register and/or on rulemaking dockets, to which no response is required. EPA respectfully refers the Court to the relevant materials for a complete and accurate statement of their contents.

2. Paragraph 2 consists of Plaintiffs' characterization of alleged background information, not allegations of fact pertinent to the resolution of the claims at issue in this FOIA action, and of materials published in the Federal Register and/or on rulemaking dockets, to which no response is required. EPA respectfully refers the Court to the relevant materials for a complete and accurate statement of their contents.

3. Paragraph 3 consists of Plaintiffs' characterization of alleged background information, not allegations of fact pertinent to the resolution of the claims at issue in this FOIA action, and of materials published in the Federal Register and/or on rulemaking dockets, to which no response is required. EPA respectfully refers the Court to the relevant materials for a complete and accurate statement of their contents.

4. EPA admits that Plaintiffs submitted the FOIA request at issue in this action to EPA. Otherwise, paragraph 4 contains Plaintiffs' characterization of alleged background information, not allegations of fact pertinent to the resolution of the claims at issue in this FOIA action, and materials published in the Federal Register and/or on rulemaking dockets, to which no response is required. EPA respectfully refers the Court to the relevant materials for a complete and accurate statement of their contents.

5. Paragraph 5 contains legal conclusions concerning FOIA, to which no response is required. EPA respectfully refers the Court to the relevant statute for a complete and accurate statement of its contents. To the extent this paragraph contains factual allegations to which a response is deemed required, EPA admits that Plaintiffs submitted the FOIA request at issue in this action to EPA, avers that it sent a letter regarding Plaintiffs' FOIA request dated August 21, 2018, avers that EPA's FOIA management system indicates that in September 2018, EPA sent a message to the Natural Resources Defense Council in which it invoked FOIA's unusual circumstances provision to extend the response date by an additional ten working days, and further avers that EPA's review and processing of records potentially responsive to Plaintiffs' FOIA request are ongoing.

6. Paragraph 6 consists of Plaintiffs' characterization of alleged background information, not allegations of fact pertinent to the resolution of the claims at issue in this FOIA action, and of materials published in the Federal Register and/or on rulemaking dockets, to which no response is required. EPA respectfully refers the Court to the relevant materials for a complete and accurate statement of their contents.

7. Paragraph 7 consists of Plaintiffs' characterization of alleged background information, not allegations of fact pertinent to the resolution of the claims at issue in this FOIA action, and of materials published in the Federal Register and/or on rulemaking dockets, to which no response is required. EPA respectfully refers the Court to the relevant materials for a complete and accurate statement of their contents. To the extent this paragraph contains factual allegations to which a response is deemed required, EPA avers that EPA's review and processing of records potentially responsive to Plaintiffs' FOIA request are ongoing.

8. Paragraph 8 contains Plaintiffs' characterization of the public interest in the government's implementation of the laws, of FOIA, of this action, and of alleged background information, not allegations of fact pertinent to the resolution of the claims at issue in this FOIA action, to which no response is required. To the extent this paragraph contains factual allegations to which a response is deemed required, EPA denies the allegations in this paragraph and avers that EPA's review and processing of records potentially responsive to Plaintiffs' FOIA request are ongoing.

9. Denies knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 9.

10. Denies knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 10.

11. Paragraph 11 consists of legal conclusions, to which no response is required. To the extent a response is deemed required, EPA admits that it is a federal agency and that Plaintiffs submitted a FOIA request to EPA.

12. Paragraph 12 consists of legal conclusions regarding jurisdiction, to which no response is required.

13. Paragraph 13 consists of legal conclusions regarding venue, to which no response is required. EPA denies knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 13 concerning Plaintiffs' principal places of business.

14. Paragraph 14 consists of Plaintiffs' characterization of FOIA, to which no response is required. EPA respectfully refers the Court to the relevant statute for a complete and accurate statement of its contents.

15. Paragraph 15 consists of Plaintiffs' characterization of FOIA, to which no response is required. EPA respectfully refers the Court to the relevant statute for a complete and accurate statement of its contents.

16. Paragraph 16 consists of Plaintiffs' characterization of FOIA, to which no response is required. EPA respectfully refers the Court to the relevant statute for a complete and accurate statement of its contents.

17. Paragraph 17 consists of Plaintiffs' characterization of FOIA, to which no response is required. EPA respectfully refers the Court to the relevant statute for a complete and accurate statement of its contents.

18. Paragraph 18 consists of Plaintiffs' characterization of FOIA, to which no response is required. EPA respectfully refers the Court to the relevant statute for a complete and accurate statement of its contents.

19. Paragraph 19 consists of Plaintiffs' characterization of FOIA, to which no response is required. EPA respectfully refers the Court to the relevant statute for a complete and accurate statement of its contents.

20. Paragraph 20 consists of Plaintiffs' characterization of alleged background information, not allegations of fact pertinent to the resolution of the claims at issue in this FOIA action, and of materials published in the Federal Register and/or on rulemaking dockets, to which no response is required. To the extent a response is deemed required, EPA respectfully refers the Court to the relevant materials for a complete and accurate statement of their contents, and denies any allegation that is inconsistent with these materials.

21. Paragraph 21 consists of Plaintiffs' characterization of alleged background information, not allegations of fact pertinent to the resolution of the claims at issue in this FOIA

action, and of materials published in the Federal Register and/or on rulemaking dockets, to which no response is required. To the extent a response is deemed required, EPA respectfully refers the Court to the relevant materials for a complete and accurate statement of their contents, and denies any allegation that is inconsistent with these materials.

22. Paragraph 22 consists of Plaintiffs' characterization of alleged background information, not allegations of fact pertinent to the resolution of the claims at issue in this FOIA action, and of materials published in the Federal Register and/or on rulemaking dockets, to which no response is required. To the extent a response is deemed required, EPA respectfully refers the Court to the relevant materials for a complete and accurate statement of their contents, and denies any allegation that is inconsistent with these materials.

23. Paragraph 23 consists of Plaintiffs' characterization of alleged background information, not allegations of fact pertinent to the resolution of the claims at issue in this FOIA action, and of materials published in the Federal Register and/or on rulemaking dockets, to which no response is required. To the extent a response is deemed required, EPA respectfully refers the Court to the relevant materials for a complete and accurate statement of their contents, and denies any allegation that is inconsistent with these materials.

24. Paragraph 24 consists of Plaintiffs' characterization of alleged background information, not allegations of fact pertinent to the resolution of the claims at issue in this FOIA action, and of materials published in the Federal Register and/or on rulemaking dockets, to which no response is required. To the extent a response is deemed required, EPA respectfully refers the Court to the relevant materials for a complete and accurate statement of their contents, and denies any allegation that is inconsistent with these materials.

25. Paragraph 25 consists of Plaintiffs' characterization of alleged background information, not allegations of fact pertinent to the resolution of the claims at issue in this FOIA action, and of materials published in the Federal Register and/or on rulemaking dockets, to which no response is required. To the extent a response is deemed required, EPA respectfully refers the Court to the relevant materials for a complete and accurate statement of their contents, and denies any allegation that is inconsistent with these materials.

26. Denies, and avers that EPA has revised the OMEGA source code and input data over time.

27. Denies, and avers that EPA has revised the OMEGA source code and input data over time.

28. Paragraph 28 consists of Plaintiffs' characterization of alleged background information, not allegations of fact pertinent to the resolution of the claims at issue in this FOIA action, and of materials published in the Federal Register and/or on rulemaking dockets, to which no response is required. To the extent a response is deemed required, EPA respectfully refers the Court to the relevant materials for a complete and accurate statement of their contents, and denies any allegation that is inconsistent with these materials.

29. Paragraph 29 consists of Plaintiffs' characterization of alleged background information, not allegations of fact pertinent to the resolution of the claims at issue in this FOIA action, and of materials published in the Federal Register and/or on rulemaking dockets, to which no response is required. To the extent a response is deemed required, EPA respectfully refers the Court to the relevant materials for a complete and accurate statement of their contents, and denies any allegation that is inconsistent with these materials.

30. Denies knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 30.

31. Paragraph 31 consists of Plaintiffs' characterization of alleged background information, not allegations of fact pertinent to the resolution of the claims at issue in this FOIA action, and of materials published on EPA's website, to which no response is required. To the extent a response is deemed required, EPA respectfully refers the Court to the relevant materials for a complete and accurate statement of their contents, and denies any allegation that is inconsistent with these materials.

32. Paragraph 32 consists of Plaintiffs' characterization of alleged background information, not allegations of fact pertinent to the resolution of the claims at issue in this FOIA action, to which no response is required. To the extent a response is deemed required, EPA denies the allegations in this paragraph, and avers that it released a full version of the OMEGA model source code in July 2016, and since that time has made other releases of related files through its website.

33. Admits.

34. Admits.

35. Admits.

36. Admits.

37. Admits.

38. Admits.

39. Paragraph 39 consists of Plaintiffs' characterization of materials published on EPA's website, to which no response is required. To the extent a response is deemed required,

EPA respectfully refers the Court to the relevant materials for a complete and accurate statement of their contents, and denies any allegation that is inconsistent with these materials.

40. Admits.

41. Paragraph 41 consists of Plaintiffs' characterization of materials published on EPA's website, to which no response is required. To the extent a response is deemed required, EPA respectfully refers the Court to the relevant materials for a complete and accurate statement of their contents, and denies any allegation that is inconsistent with these materials.

42. Paragraph 42 consists of Plaintiffs' characterization of materials published on EPA's website, to which no response is required. To the extent a response is deemed required, EPA respectfully refers the Court to the relevant materials for a complete and accurate statement of their contents, and denies any allegation that is inconsistent with these materials.

43. Admits.

44. Paragraph 44 consists of Plaintiffs' characterization of alleged background information, not allegations of fact pertinent to the resolution of the claims at issue in this FOIA action, and in particular their characterization of a letter from Plaintiffs to an EPA Assistant Administrator dated March 20, 2018, to which no response is required. To the extent a response is deemed required, EPA respectfully refers the Court to the relevant letter for a complete and accurate statement of its contents, and admits it did not respond to the letter dated March 20, 2018.

45. Paragraph 45 consists of Plaintiffs' characterization of materials published in the Federal Register and/or on rulemaking dockets, to which no response is required. To the extent a response is deemed required, EPA respectfully refers the Court to the relevant materials for a

complete and accurate statement of their contents, and denies any allegation that is inconsistent with these materials.

46. Paragraph 46 consists of Plaintiffs' characterization of materials available on the <http://www.regulations.gov> website, to which no response is required. To the extent a response is deemed required, EPA respectfully refers the Court to the relevant materials for a complete and accurate statement of their contents, and denies any allegation that is inconsistent with these materials.

47. Paragraph 47 consists of Plaintiffs' characterization of the FOIA request at issue in this suit, to which no response is required. EPA admits that Plaintiffs submitted the FOIA request to EPA, denies knowledge or information sufficient to form a belief about the truth of the allegations in this paragraph regarding Plaintiffs' reasons for submitting the request, and respectfully refers the Court to that request for a complete and accurate statement of its contents.

48. Admits.

49. Paragraph 49 consists of Plaintiffs' characterization of the FOIA request at issue in this suit, to which no response is required. EPA respectfully refers the Court to that request for a complete and accurate statement of its contents and denies any allegation that is inconsistent with the request.

50. Paragraph 50 consists of Plaintiffs' characterization of the FOIA request at issue in this suit, to which no response is required. EPA respectfully refers the Court to that request for a complete and accurate statement of its contents and denies any allegation that is inconsistent with the request.

51. Paragraph 51 consists of Plaintiffs' characterization of EPA's letter dated August 21, 2018, in response to Plaintiffs' FOIA request, to which no response is required. EPA

respectfully refers the Court to the relevant letter for a complete and accurate statement of its contents, and denies any allegation that is inconsistent with the letter.

52. Paragraph 52 consists of Plaintiffs' characterization of EPA's letter dated August 21, 2018, in response to Plaintiffs' FOIA request, to which no response is required. EPA respectfully refers the Court to the relevant letter for a complete and accurate statement of its contents, and denies any allegation that is inconsistent with the letter.

53. Paragraph 53 consists of Plaintiffs' characterization of materials published in the Federal Register and/or on rulemaking dockets, to which no response is required. To the extent a response is deemed required, EPA respectfully refers the Court to the relevant materials for a complete and accurate statement of their contents, and denies any allegation that is inconsistent with these materials.

54. Paragraph 54 consists of Plaintiffs' characterization of materials published in the Federal Register and/or on rulemaking dockets, to which no response is required. To the extent a response is deemed required, EPA respectfully refers the Court to the relevant materials for a complete and accurate statement of their contents, and denies any allegation that is inconsistent with these materials.

55. Admits.

56. Denies, and avers that EPA's FOIA management system indicates that in September 2018, EPA sent a message to the Natural Resources Defense Council in which it invoked FOIA's unusual circumstances provision to extend the response date by an additional ten working days, and further avers that EPA's review and processing of records potentially responsive to Plaintiffs' FOIA request are ongoing.

57. Paragraph 57 consists of Plaintiffs' characterization of a letter from Plaintiffs and others to an EPA Assistant Administrator dated September 20, 2018, to which no response is required. To the extent a response is deemed required, EPA respectfully refers the Court to the relevant letter for a complete and accurate statement of its contents, denies any allegation that is inconsistent with the letter, admits it did not respond to the letter, and avers that EPA's review and processing of records potentially responsive to Plaintiffs' FOIA request are ongoing.

58. Paragraph 58 consists of Plaintiffs' characterization of materials published in the Federal Register and/or on rulemaking dockets, to which no response is required.¹ To the extent a response is deemed required, EPA respectfully refers the Court to the relevant materials for a complete and accurate statement of their contents, and denies any allegation that is inconsistent with these materials.

59. Paragraph 59 consists of Plaintiffs' characterization of materials published in the Federal Register and/or on rulemaking dockets, to which no response is required. EPA respectfully refers the Court to the relevant materials for a complete and accurate statement of their contents. To the extent a response is deemed required, EPA admits that the comment period for Docket EPA-HQ-OAR-2018-0283 closed on October 26, 2018.

60. Paragraph 60 consists of Plaintiffs' characterization of materials available on the <http://www.FOIAonline.gov> website, to which no response is required. To the extent a response is deemed required, EPA respectfully refers the Court to the relevant materials for a complete and accurate statement of their contents, and denies any allegation that is inconsistent with these materials.

¹ Paragraph 58 refers to comments "submitted in October 2016." EPA submits that this paragraph may be intended to refer to comments submitted in October 2018.

61. Paragraph 61 consists of Plaintiffs' characterization of materials available on the <http://www.FOIAonline.gov> website, to which no response is required. To the extent a response is deemed required, EPA respectfully refers the Court to the relevant materials for a complete and accurate statement of their contents, and denies any allegation that is inconsistent with these materials.

62. Admits, and avers that EPA's review and processing of records potentially responsive to Plaintiffs' FOIA request are ongoing.

63. Admits, and avers that EPA's review and processing of records potentially responsive to Plaintiffs' FOIA request are ongoing.

64. Denies, and avers that EPA's FOIA management system indicates that in September 2018, EPA sent a message to the Natural Resources Defense Council in which it invoked FOIA's unusual circumstances provision to extend the response date by an additional ten working days.

65. Admits, and avers that EPA's FOIA management system indicates that in September 2018, EPA sent a message to the Natural Resources Defense Council in which it invoked FOIA's unusual circumstances provision to extend the response date by an additional ten working days.

66. Admits, and avers that EPA's review and processing of records potentially responsive to Plaintiffs' FOIA request are ongoing.

67. Admits, and avers that EPA's review and processing of records potentially responsive to Plaintiffs' FOIA request are ongoing.

68. EPA repeats and incorporates by reference each response contained in paragraphs 1 through 67 as though fully set forth herein.

69. Paragraph 69 consists of legal conclusions and Plaintiffs' characterization of FOIA, to which no response is required and which characterization is denied. EPA respectfully refers the Court to the relevant statute for a complete and accurate statement of its contents.

70. Denies, and avers that EPA's review and processing of records potentially responsive to Plaintiffs' FOIA request are ongoing.

71. The portion of the complaint titled "Request for Relief" following paragraph 70 contains Plaintiffs' prayer for relief, to which no response is required. To the extent a response is deemed required, EPA denies that Plaintiffs are entitled to the relief they seek or to any relief.

DEFENSES

For further defenses, Defendant alleges as follows:

FIRST DEFENSE

Plaintiffs' complaint should be dismissed in whole or in part for failure to state a claim on which relief may be granted.

SECOND DEFENSE

Some or all of the requested documents are exempt from disclosure, in whole or in part, under 5 U.S.C. § 552(b).

THIRD DEFENSE

The Court lacks subject matter jurisdiction over Plaintiffs' requests for relief that exceed the relief authorized under FOIA, 5 U.S.C. § 552.

FOURTH DEFENSE

Plaintiffs are not entitled to declaratory relief. *See* 5 U.S.C. § 552(a)(4)(B).

FIFTH DEFENSE

Plaintiffs are not entitled to attorney fees under 5 U.S.C. § 552(a)(4)(E).

SIXTH DEFENSE

To the extent that Defendant has exercised due diligence in processing Plaintiffs' FOIA request and exceptional circumstances exist, Defendant should be allowed additional time to process the request. 5 U.S.C. § 552(a)(6)(C).

Defendant may have additional defenses which are not known at this time but which may become known through further proceedings. Accordingly, Defendant reserves the right to assert each and every affirmative or other defense that may be available, including any defenses available pursuant to Rules 8 and 12 of the Federal Rules of Civil Procedure.

WHEREFORE Defendant respectfully requests that the Court: (1) dismiss the complaint with prejudice; (2) enter judgment in favor of Defendant; and (3) grant such further relief as the Court deems just and proper.

Dated: February 13, 2019
New York, New York

Respectfully submitted,

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IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF NEW YORK

NATURAL RESOURCES DEFENSE
COUNCIL and
ENVIRONMENTAL DEFENSE FUND,

Plaintiffs,

v.

UNITED STATES ENVIRONMENTAL
PROTECTION AGENCY,

Defendant.

Case No. 18-cv-11227-PKC
ECF Case

**PLAINTIFFS' MEMORANDUM OF LAW IN SUPPORT OF MOTION
FOR SUMMARY JUDGMENT AND MOTION TO EXPEDITE**

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INTRODUCTION AND REQUEST FOR EXPEDITED DISPOSITION

Last August, Plaintiffs submitted an expedited request to the Environmental Protection Agency (“EPA”) under the Freedom of Information Act (“FOIA”). Plaintiffs sought the public release of a discrete set of electronic records: recent updates to data files and basic-accounting programs known collectively as the Optimization Model for Reducing Emissions of Greenhouse Gases from Automobiles (“OMEGA”). OMEGA calculates how vehicle manufacturers can apply technologies to their fleets in order to reduce greenhouse gas (“GHG”) emissions.

EPA created OMEGA for public use and published the full model in 2010 when the agency first proposed vehicle greenhouse gas standards under the Clean Air Act. Because technology improves over time, EPA updates many of the files needed to run OMEGA to reflect those changes. Until 2017, EPA published these updates on its website and encouraged the public to access them. But those updates stopped appearing when EPA began to take steps to weaken its existing emission standards. Plaintiffs requested the unreleased updates under FOIA, but EPA refused to make them “promptly available.” 5 U.S.C. § 552(a)(3)(A). Plaintiffs filed this suit to compel disclosure.

EPA responded by declaring the latest version of the main OMEGA program—the “core” model—to be exempt from disclosure under the “deliberative process privilege,” while releasing purportedly all the input data and other files necessary to run that version of the model. But Exemption 5, the provision of FOIA that incorporates the deliberative-process privilege, shields from the public eye only “inter-agency or intra-agency memorandums or letters” that would be legally privileged “in litigation with the agency.” 5 U.S.C. § 552(b)(5). Plaintiffs now move this Court to expeditiously declare that Exemption 5 does not cover the withheld core model (v.1.4.59) and to order EPA to immediately release it.

EPA cannot carry its burden to show that the OMEGA v.1.4.59 core model is exempt from disclosure. *First*, the core model is not covered by the plain terms of Exemption 5—a computer accounting program is not an “inter-agency or intra-agency memorandum or letter,” or any analogous form of communication. *Second*, the core model could not be withheld as privileged in litigation. The core model itself is not “deliberative”; it neither contains nor reflects “advisory opinions, recommendations [or] deliberations.” *Dep’t of Interior v. Klamath Water Users Protective Ass’n*, 532 U.S. 1, 8 (2001). And EPA’s position that the core model is “predecisional” cannot be squared with the agency’s definitive statements that it *has not used* the model to inform its pending decision whether to weaken vehicle emission standards. *Finally*, disclosure will not frustrate any goal of the deliberative-process privilege: the core model is a basic-accounting program, and its release will not reveal any proposed policy before EPA adopts it, or otherwise hinder full and frank policy discussion among federal officials.

EPA has fully released OMEGA in the past, including the core model. It is only now that EPA is proposing to weaken standards that the agency has asserted that the core model should be hidden from the public. Public records indicate that application of the model yields data at odds with EPA’s official proposal, and the agency has spent the better part of a year rebuffing requests from Plaintiffs and others to disclose the latest version. But FOIA’s narrow exemptions are not a refuge for an agency seeking to bury facts at odds with its desired policy outcomes.

The only live dispute in this case is the applicability of a single FOIA exemption to the OMEGA v.1.4.59 core model. Because the OMEGA v.1.4.59 core model does not fall within the claimed exemption, EPA is improperly withholding it as a matter of law, *see Dep’t of Justice v. Tax Analysts*, 492 U.S. 136, 151 (1989), and the Court should order EPA to release it. Further, the stakes are high enough to warrant an expedited disposition. EPA is poised to finalize a

proposal that would significantly weaken pollution standards for all new cars and light trucks through the middle of the next decade. This is a massive public health rule, with billions of tons of climate pollution and hundreds of billions of dollars of societal costs in the balance. The public has a right to know if information in the agency’s sole possession does not support its proposal—and it has a right to know *before* the agency runs out the clock on its rulemaking. Because further delay may be tantamount to denial of Plaintiffs’ request for the core model, Plaintiffs respectfully submit that there is “good cause” for this Court to order the withheld core model to be produced on or before June 17, 2019. 28 U.S.C. § 1657(a).

BACKGROUND

A. The Freedom of Information Act (“FOIA”).

“The Freedom of Information Act adopts as its most basic premise a policy strongly favoring public disclosure of information in the possession of federal agencies.” *Halpern v. FBI*, 181 F.3d 279, 286 (2d Cir. 1999). The Act mandates that a federal agency “promptly” release records upon request, 5 U.S.C. § 552(a)(3)(A), and confers jurisdiction on the district courts to “order the production of any agency records improperly withheld,” *id.* § 552(a)(4)(B).

Congress realized, however, “that legitimate governmental and private interests could be harmed by release of certain types of information.” *ACLU v. Dep’t of Defense*, 322 F. Supp. 3d 464, 473 (S.D.N.Y. 2018). To account for those interests, FOIA delimits nine specific exemptions to FOIA’s disclosure mandate. *See* 5 U.S.C. § 552(b). “These exemptions are explicitly made exclusive and must be narrowly construed.” *Milner v. Dep’t of the Navy*, 562 U.S. 562, 565 (2011) (citations omitted); *cf. Klamath*, 532 U.S. at 7–8 (“These limited exemptions do not obscure the basic policy that disclosure, not secrecy, is the dominant objective of the Act.”).

At issue here is Exemption 5, which protects only “inter-agency or intra-agency memorandums or letters that would not be available by law to a party other than an agency in litigation with the agency.” 5 U.S.C. § 552(b)(5). “The government bears the burden of demonstrating that an exemption applies to each item of information it seeks to withhold, and all doubts as to the applicability of the exemption must be resolved in favor of disclosure.” *Florez v. Cent. Intelligence Agency*, 829 F.3d 178, 182 (2d Cir. 2016). A reviewing court decides “de novo” whether the exemption applies, 5 U.S.C. § 552(a)(4)(B), and “[t]he agency’s decision that the information is exempt from disclosure receives no deference,” *Bloomberg, LP v. Bd. of Gov’rs of the Fed. Reserve Sys.*, 601 F.3d 143, 147 (2d Cir. 2010).

B. Development of the OMEGA model.

In 2009, EPA determined that emissions of greenhouse gases from new motor vehicles cause or contribute to air pollution that endangers the public health and welfare. 74 Fed. Reg. 66,496 (Dec. 15, 2009). EPA then undertook to develop greenhouse gas emission standards for new light-duty vehicles. 75 Fed. Reg. 25,324 (May 7, 2010); *see* 42 U.S.C. § 7521(a). A “critical technical underpinning” of “the feasibility and cost of potential [greenhouse gas] standards” “is the cost and effectiveness of the various control technologies.” *Id.* at 25,329.

Vehicle manufacturers “can choose from a myriad of [control] technologies and can apply one or more of these technologies to some or all of its vehicles,” such that, for a given emission standard, “there are an almost infinite number of technology combinations” that a manufacturer could theoretically apply to bring its vehicle fleet into compliance. *See* EPA, *Regulatory Impact Analysis*, at 4-1, Doc. EPA-420-R-10-002 (2010). Practically, manufacturers will likely prioritize the application of lower-cost, higher-efficiency technologies. *Id.* at 4–11. “Modeling is an efficient, rigorous way for EPA to investigate the lowest-cost technology

pathway under different regulatory scenarios.” Declaration of Margo Oge ¶ 19. However, “detailed analysis of the costs and benefits of various GHG emissions reduction requires a specialized application that optimizes and accounts for all the promising technologies, going beyond what can be accomplished with simple spreadsheet tools.” EPA, *OMEGA Model Documentation 1.0*, at 1, Doc. EPA-420-B-09-035 (2009) (*Model Doc. 1.0*).

To that end, EPA staff in the Office of Transportation and Air Quality (“OTAQ”) began developing what would become the OMEGA model. Oge Decl. ¶ 8. “[T]he development of the OMEGA model was a collaborative and open process,” and OTAQ staff submitted the model “to a rigorous peer-review process.” *Id.* ¶ 9. “EPA also received and responded to comments on the OMEGA model from automobile manufacturers and other interested public parties.” *Ibid.*

“OTAQ intentionally designed the OMEGA model to be transparent and publicly accessible.” Oge Decl. ¶ 12. “The model was designed not to incorporate or rely on confidential information from manufacturers,” and the model “intentionally used open-source software.” *Ibid.* “[T]he OMEGA model itself—including its source code—do[es] not reflect the work of any single EPA employee, but rather the collective work of many different agency experts based on the best available science.” *Id.* ¶ 11.

In 2010, EPA published a full version of OMEGA on a public webpage dedicated to the model. *See* Oge Decl. ¶ 13; EPA, “Optimization Model for reducing Emissions of Greenhouse gases from Automobiles (OMEGA)” (Ex. A), <https://www.epa.gov/regulations-emissions-vehicles-and-engines/optimization-model-reducing-emissions-greenhouse-gases>. Along with the release, EPA provided documentation describing in detail the structure and function of the model. *See Model Doc. 1.0*.

C. Components and nature of the OMEGA model.

As EPA has explained, “OMEGA includes several components.” EPA, *Regulatory Impact Analysis*, at 3–5, Doc. EPA-420-R-12-016 (2012). Broadly speaking, OMEGA is comprised of inputs, the core model, and outputs. *See* Ex. B (EPA’s graphical depiction of model). Only the core model component remains in dispute in this action.¹ A brief description of the role of these components in the overall model helps clarify the nature of the core model itself.

To “run” OMEGA, a user first gathers the necessary input files. Declaration of Dr. Nicholas Lutsey ¶¶ 13, 20. These input files are Microsoft Excel spreadsheets containing quantitative data. *Id.* ¶¶ 11a, 13. One of these input data files is the “scenario file,” which contains hypothetical emission targets for vehicle manufacturers to meet. *Id.* ¶ 22. Other files contain, for example, data about the existing vehicle fleet, available control technologies, and fuel costs. *Id.* ¶¶ 11a, 13. Some of these inputs can be read directly by the core model; other inputs must be refined by “pre-processors.” *Id.* ¶¶ 11b, 15. The pre-processors are small computer programs and spreadsheets that convert raw inputs into a form readable by the core model. *Id.* ¶ 11b. In response to Plaintiffs’ lawsuit, EPA has released purportedly all the current input data and pre-processor files.

When all the data inputs are ready, the core model (the component of OMEGA that EPA is withholding) is ready to run. The core model is a computer program “written in the C# programming language.” *See* EPA, *OMEGA Core Model Version 1.4.56*, at 3, Doc. EPA-420-B-16-064 (July 2016). The core model program reads the input data and performs a series of

¹ When EPA published OMEGA v.1.4.56, it released the core model under the heading “Installation Files.” Ex. A, at 2. EPA has declared exempt all comparable files that are compatible with OMEGA v.1.4.59. *See* 04/01/19 Letter from Benjamin Hengst to Irene Gutierrez (Ex. C); 03/04/19 Letter from Benjamin Hengst to Irene Gutierrez (Ex. D); Joint Status Rep. (Dkt. 37), at 1.

mathematical computations. Lutsey Decl. ¶¶ 11c, 20. Broadly speaking, reading from the input files, the core model: (i) loads data about a manufacturer’s existing vehicle fleet; (ii) combines that data with the scenario file to determine the applicable emission reduction target for that manufacturer; and (iii) applies available control technologies to the existing vehicle fleet until the manufacturer reaches emissions compliance. *Id.* ¶¶ 15–20. Technology is added in sequence, “using one of three distinct ranking approaches . . . set by the user.” EPA, *OMEGA Core Model Version 1.4.56*, at 5. The user can, for example, set the program to rank technology to be applied based on “the cost of the technology and the value of any reduced fuel consumption.” *Ibid.*

When the core model is done calculating, it generates quantitative outputs. This voluminous data includes the cost to each manufacturer, per vehicle, to implement the technology necessary to meet the given emission target. Lutsey Decl. ¶ 20. The output files are Excel spreadsheets of raw data. *Id.* ¶¶ 11d, 20. “Post-processors”—other small computer programs and spreadsheets—convert some of the raw data into more user-friendly datasets. *Id.* ¶ 11e. In response to Plaintiffs’ lawsuit, EPA has released purportedly all the current output post-processor files. Plaintiffs are not seeking, and EPA has not disclosed in response to Plaintiffs’ lawsuit, any actual output data or other records reporting the results of specific OMEGA model runs. Computer programs exist in myriad varieties, from complex simulators to basic calculators. EPA’s most recent documentation explains that OMEGA is primarily an “accounting” model. *See* EPA, *OMEGA Core Model Version 1.4.56*, at 3–4. OMEGA “is not a vehicle simulation model” or “an economic simulation model.” *Ibid.*

An accounting model “is simply a computational tool—a type of specialized calculator.” Lutsey Decl. ¶ 22. It performs “a chain of many thousands of calculations,” but each individual calculation is straightforward. *Id.* ¶ 20. “Because OMEGA is an accounting model, the vehicles

[to be modeled] can be described using only a relatively few number of terms.” EPA, *OMEGA Core Model Version 1.4.56*, at 4.

The OMEGA model “is designed to be flexible in a number of ways,” *id.* at 7, but this flexibility is primarily achieved through the user’s modification of input data across different runs of the core model. Lutsey Decl. ¶¶ 13, 15, 22. “Very few numeric values are hard-coded in the model, and consequently, the model relies heavily on its input files.” EPA, *OMEGA Core Model Version 1.4.56*, at 7. For example, a user might run the model twice with different input values for the price of fuel, in order to generate data on the effect of changing fuel prices. The user also does not need to understand (or even view) the C# programming language to use the model. OMEGA has a graphic user interface. *See id.* at 47. This interface “is simple and relies on the fact that all of the information needed to run the model is contained in the input files.” *Ibid.*

D. EPA stops disclosing OMEGA updates as it moves to weaken standards.

Because vehicle technology improves over time, EPA needs to update OMEGA to reflect these changes. Oge Decl. ¶ 14. After the initial release in 2010, EPA affirmatively published at least four more updated versions of the full OMEGA model and associated files. *See Ex. A.*

Most recently, in November 2016, EPA released a full OMEGA update in conjunction with a proposed determination that the agency’s existing GHG-emission standards for passenger cars and light trucks of model years (“MY”) 2022–2025 remain “appropriate.” 81 Fed. Reg. 87,927 (Dec. 6, 2016). As with previous releases, EPA assured the public at that time that “[p]eriodic updates of ... the model ... will be available to be downloaded” from its website and urged “[t]hose interested in using the model ... to periodically check this website for these updates.” EPA, *OMEGA Core Model Version 1.4.56*, at 3. In January 2017, EPA finalized a determination that the agency’s extant GHG-emission standards for MY 2022–2025 passenger cars and light

trucks—which require automakers to make meaningful year-over-year reductions in fleetwide emissions—remain “appropriate,” in large part because automakers have “a range of feasible, cost-effective compliance pathways to meet [EPA’s] standards.” EPA, *Final Determination on the Appropriateness of the Model Year 2022–2025 Light-Duty Vehicle Greenhouse Gas Emissions Standards under the Midterm Evaluation*, at 3–4, Doc. EPA-420-R-17-001 (2017).

Following a presidential transition, EPA opted to reconsider whether its existing emission standards for MY 2022–2025 passenger cars and light trucks remained appropriate. 82 Fed. Reg. 14,671 (Mar. 22, 2017). During that reconsideration, EPA continued to update OMEGA’s input data files and accounting programs, but the agency stopped disclosing the updates on its website or elsewhere.² Compl. 9–10, ¶¶ 33–38; Answer 8, ¶¶ 33–38. EPA sought comment on “advantages or deficiencies in [its] *past* approaches to forecasting and projecting automobile technologies,” 82 Fed. Reg. 39,551, 39,553/2 (Aug. 21, 2017) (emphasis added), but the agency remained silent regarding its *present* approach.

Hoping to end that silence, Plaintiffs and others wrote to EPA’s Assistant Administrator for the Office of Air and Radiation and asked him to release the latest version of OMEGA. 03/20/18 Letter from Environmental Defense Fund et al. to William Wehrum (Ex. E). But he neither responded to that request nor released any updated version of the OMEGA model or related files. *See* Compl. 11, ¶ 44; Answer 9, ¶ 44.

In April 2018, the EPA Administrator determined that the existing MY 2022–2025 standards for passenger cars and light trucks were “not appropriate” and “should be revised.” 83 Fed. Reg. 16,077, 16,077/3 (Apr. 13, 2018). Though EPA premised the about-face in part on

² The sole exception was EPA’s release of a “revised OMEGA pre-processor, the TEB-CEB ‘Machine,’” in April 2017. Ex. A, at 2. *See also* Compl. 10, ¶ 37; Answer 8, ¶ 37.

criticism of OMEGA by automakers, *id.* at 16,079/3, 16,081/1, the agency still did not disclose the latest version of the model. That lack of transparency is especially conspicuous because, during the same month that the Administrator decided to revise the MY 2022–2025 standards to adjust for compliance costs supposedly “underestimated” by EPA when it issued the standards in 2012, *id.* at 16,084/1, EPA staff presented OMEGA results to the Office of Management and Budget showing that compliance costs would be *lower* than the agency had projected in 2012, *see* Compl. 9–10, ¶¶ 34–35; Answer 8, ¶¶ 34–35; Lutsey Decl. ¶ 27 & Attachment 2, at 24 (E.O. 12,866 Review Materials for *SAFE Proposed Rule*, EPA-HQ-OAR-2018-0283-0453: “EPA review of CAFE Model with ‘GHG’ settings (08-Mar ver.)”). In other words, the results from the latest OMEGA modeling were not in line with the Administrator’s course of action.

While EPA prepared to weaken its existing standards, Plaintiffs sent the agency an expedited FOIA request for “all versions of the [OMEGA] model not previously made public” and related agency records. 07/25/18 Letter from Irene Gutierrez to EPA FOIA Officer, at 1 (Ex. F). EPA received the request on or before August 10, 2018. Compl. 10, ¶ 48; Answer 10, ¶ 48. The agency refused to expedite processing of the request, 08/21/18 Letter from Larry Gottesman to Irene Gutierrez, at 1 (Ex. G), but EPA did waive Plaintiffs’ processing fees, *ibid.*, thereby acknowledging that disclosure of the latest OMEGA updates “is in the public interest because it is likely to contribute significantly to public understanding of the operations or activities of the government,” 40 C.F.R. § 2.107(l)(1).

Shortly after receiving Plaintiffs’ FOIA request, EPA formally proposed to stop requiring *any* improvement in fleetwide GHG emissions for passenger cars and light trucks for six years starting in MY 2021. 83 Fed. Reg. 42,986 (Aug. 26, 2018). In justifying that proposal, EPA “g[ave] particular consideration to the high projected costs of the [extant] standards.” *Id.* at

43,431/3. But those cost projections were not the result of using OMEGA. EPA's notice of proposed rulemaking, issued jointly with the National Highway Traffic Safety Administration ("NHTSA"), revealed that EPA was relying on "only [NHTSA's] models and inputs/outputs," *id.* at 43,002 n.61, to project when, how, and at what cost automakers can implement technologies to meet EPA's emission standards. In short, rather than use the custom-built, peer-reviewed OMEGA model that EPA staff continued to use to generate data on the cost of compliance with EPA's emission standards, EPA instead would use a NHTSA model developed to aid NHTSA to carry out its duty to set fuel-economy standards under the Energy Policy and Conservation Act, *see* 49 U.S.C. § 32902(a). The joint notice of proposed rulemaking did not acknowledge the fact that EPA staff continued to run the OMEGA model or attempt to explain why EPA had stopped publishing updates to the model.

Soon thereafter, EPA missed its nondiscretionary statutory deadline to notify Plaintiffs whether the agency would disclose OMEGA records responsive to their FOIA request. *See* Compl. 13, ¶¶ 62–63; Answer 11, ¶¶ 62–63; 5 U.S.C. § 552(a)(6). Plaintiffs then sent the Assistant Administrator a second letter urging expeditious release of OMEGA updates, to afford the public access to EPA's own model for use in preparing comments on the cost of compliance with the agency's standards. 09/20/18 Letter from Environmental Defense Fund et al. to William Wehrum (Ex. H). Once again, the Assistant Administrator made no response, *see* Compl. 14, ¶ 57; Answer 12, ¶ 57.

Plaintiffs were not the only ones seeking to obtain the updates to OMEGA. The State of California, a co-regulator of GHG emissions from automobiles, *see* 42 U.S.C. § 7543(b), sent EPA its own FOIA request seeking the latest full version of the model and related files. 09/11/18 Letter from Ellen Peter to Andrew Wheeler 5–6 (Ex. I). Although the State's request post-dated

that of Plaintiffs, EPA issued California an interim response just before the comment period for EPA's proposed rule closed. 10/23/18 Letter from John Shoaff to Ellen Peter (Ex. J). EPA's response letter acknowledged the existence of undisclosed OMEGA updates but declined to release them on the ground that they "were not used to develop the proposed rule." *Id.* at 2. On April 5, 2019, the State of California sued EPA in the Northern District of California seeking these records and others related to the agency's pending rulemaking. *Cal. Air Res. Bd. v. EPA*, D.D.C. No. 1:19-cv-965 (filed Apr. 5, 2019).

E. Plaintiffs sue to compel EPA to release the latest full version of OMEGA.

On December 3, 2018, still having received no response to their FOIA request, Plaintiffs filed this lawsuit to compel "the production of ... [EPA] records improperly withheld." 5 U.S.C. § 552(a)(4)(B). Later that month, Plaintiffs moved this Court to expedite the case under the Civil Priorities Act, *see* 28 U.S.C. § 1657(a), and order EPA to release "a priority subset of records" encompassing "the most up-to-date version" "of EPA's [OMEGA] model and data." Pls.' Mot. to Expedite & Mot. for Partial Summ. J. (Dkt. 13), at 10. *See also* Pls.' Reply to Mot. to Expedite & Mot. for Partial Summ. J. (Dkt. 27), at 9 (requesting "the full current package" of records comparable to the suite of records historically published on EPA's OMEGA website).

Before this Court ruled on that motion, EPA produced purportedly "all the latest available input files for the latest full version of the OMEGA model (version 1.4.59)." Ex. D. Still, the agency withheld "the latest full version of the OMEGA model itself," citing only "5 U.S.C. § 552(b)(5), the Deliberative Process Privilege." *Ibid.* EPA stated that "the latest full version" was "predecisional and deliberative and would harm agency decision making if released." Ex. D.

To avoid further delay, Plaintiffs narrowed their FOIA request to cover only "the most recent complete set of records compatible with v.1.4.59 of EPA's OMEGA model (with the

exception of model ‘output’ data files),” in exchange for the agency’s commitment to make a final determination on the remainder of those records by April 1, 2019. Joint Status Rep. 1 (Dkt. 37) (hereinafter, “JSR”). On that date, EPA “conclude[d] its response to [Plaintiffs’] narrowed request” by releasing what the agency stated were “all ... the most recent fully updated OMEGA pre-processors” and “post-processors.”³ 04/01/19 Letter from Benjamin Hengst to Irene Gutierrez (Ex. C), at 2. The agency continued to withhold the OMEGA v.1.4.59 core model without further explanation. *Ibid.*

ARGUMENT

EPA is improperly withholding the OMEGA v.1.4.59 core model under FOIA’s Exemption 5. The Court should expeditiously declare that Exemption 5 does not apply and order EPA to immediately release the withheld core model.

I. EXEMPTION 5 DOES NOT APPLY TO THE OMEGA V.1.4.59 CORE MODEL.

EPA’s justification for withholding the OMEGA v.1.4.59 core model is that it is exempt from disclosure under “the Deliberative Process Privilege.” Ex. D. Exemption 5 of FOIA incorporates that privilege to a certain extent. *See Klamath*, 532 U.S. at 8. But Exemption 5 does not encompass the core model, which is a computer accounting program that performs a sequence of mathematical calculations on data not exempt from disclosure.

Exemption 5 applies to (1) “inter-agency or intra-agency memorandums or letters” that (2) “would not be available by law to a party . . . in litigation with the agency.” 5 U.S.C. § 552(b)(5). The OMEGA v.1.4.59 core model meets neither of these conditions. *First*, the core

³ Lacking a full and complete version of OMEGA, Plaintiffs are unable to verify EPA’s assertion that it has otherwise produced “the most recent complete set of records compatible with v.1.4.59 (with the exception of model ‘output’ data files).” JSR at 1. For present purposes, Plaintiffs take EPA at its word that the agency produced all records sought except for the core model, which prior releases denominated “Installation Files.”

model is not an “intra-agency memorandum or letter” or any analogous form of communication. *Second*, the core model would not be privileged in civil litigation because it is neither “deliberative” nor “predecisional.” Further, and relatedly, public release of the OMEGA v.1.4.59 core model will not disserve the purposes of the deliberative-process privilege.

A. The OMEGA v.1.4.59 core model is not an intra-agency communication.

Consideration of the scope of a FOIA exemption “starts with its text.” *Milner*, 562 U.S. at 569 (urging attention to the “simple words” of FOIA). While this is true of statutory construction more generally, the Supreme Court has “insisted” that FOIA’s exemptions “be read strictly in order to serve FOIA’s mandate of broad disclosure.” *Klamath*, 532 U.S. at 16. Although many Exemption 5 cases turn on the second statutory condition—that the agency record must be privileged in litigation—“the first condition of Exemption 5 is no less important than the second.” *Id.* at 9.

Under the first condition, Exemption 5 applies only to “inter-agency or intra-agency memorandums or letters.” 5 U.S.C. § 552(b)(5). This language stands in contrast to other FOIA exemptions applicable more broadly to “records or information,” *id.* § 552(b)(7), or “information and data,” *id.* § 552(b)(9).⁴ FOIA does not define “memorandum” or “letter,” but when the exemption was enacted in 1966, Pub. L. No. 89-487, just as now, *memorandum* and *letter* denoted prose documents used for interpersonal communication. *See Webster’s New World Dictionary of the American Language* 918 (Coll. Ed. 1966) (defining *memorandum* as “an informal written communication, as from one department to another in a business office”); *id.* at 840 (defining *letter* as “a written or printed personal or business message, usually sent by mail in

⁴ EPA has not disputed that the records withheld here are subject to FOIA insofar as they are “record[s] ... maintained by [the] agency in ... an electronic format.” 5 U.S.C. § 552(f)(2)(A).

an envelope”); *cf. Wisc. Cent. Ltd. v. United States*, 138 S. Ct. 2067, 2070 (2018) (courts should interpret words “consistent with their ordinary meaning” at enactment).

Courts have reasonably construed Exemption 5 to extend to memorandum- and letter-like communications, most notably the ubiquitous modern equivalent: e-mail. *See, e.g., Nat’l Day Laborer Org. Network v. U.S. Immigration & Customs Enf’t Agency*, 811 F. Supp. 2d 713, 749 (S.D.N.Y. 2011) (*NDLON*), *amended on reconsideration* (Aug. 8, 2011). But e-mails, like memorandums and letters, are sent *from* people *to* other people. *See Grand Cent. P’ship, Inc. v. Cuomo*, 166 F.3d 473, 482 (2d Cir. 1999) (quoting *Ethyl Corp. v. EPA*, 25 F.3d 1241, 1248 (4th Cir. 1994), for the proposition that “relevant factors to be considered in determining whether [Exemption 5] applies ... are ‘the identity and position of the author and any recipients of the document, along with the place of those persons within the decisional hierarchy’”). *Cf. Brennan Ctr. for Justice v. Dep’t of Homeland Sec.*, 331 F. Supp. 3d 74, 93 (S.D.N.Y. 2018) (Exemption 5 “generally requires the agency to explain ... the nature of the decisionmaking authority vested in the document’s author and recipient” (citation omitted)). In short, “Exemption 5 protects only ‘intra-agency’ or ‘inter-agency’ communications.” *Tigue v. U.S. Dep’t of Justice*, 312 F.3d 70, 77 (2d Cir. 2002).

The OMEGA v.1.4.59 core model is a computer program written in C# programming code. For illustrative purposes, attached to this motion is a transcription of a portion of the last public release (v.1.4.56) of the OMEGA core model. Ex. K. The core model is simply a set of instructions to a computer. *See Oge Decl.* 3, ¶ 11. EPA decisionmakers do not conduct interpersonal communications through core model code. Officials may write memorandums or send emails to each other *about* the core model, or discussing results of its use, but they do not communicate with each other via the core model itself. In short, because the OMEGA v.1.4.59

core model is not a “memorandum” or “letter,” or any analogous intra-agency communication, 5 U.S.C. § 552(b)(5), Exemption 5 by its plain terms does not apply in this case.

B. The OMEGA v.1.4.59 core model would not be privileged in litigation.

Even construing the OMEGA v.1.4.9 core model to be an intra-agency communication, it would still fail of the second condition of Exemption 5. The second condition—the requirement that a record “would not be available by law” in litigation with the agency, 5 U.S.C. § 552(b)(5)—incorporates “what is sometimes called the ‘deliberative process’ privilege.” *Klamath*, 532 U.S. at 8. EPA asserts that the core model itself would be covered by this privilege. But the privilege only applies to interagency documents that are both “deliberative” and “predecisional.” *See Tigie*, 312 F.3d at 76. The OMEGA v.1.4.59 core model is neither.

1. The OMEGA core model is not “deliberative.”

Deliberative documents contain “advisory opinions, recommendations and deliberations [that] compris[e] part of a process by which governmental decisions and policies are formulated.” *Klamath*, 532 U.S. at 8 (citation omitted). In contrast, deliberative-process protection does not, as a general matter, extend to factual, investigative material. *See EPA v. Mink*, 410 U.S. 73, 87–89 (1973) (Exemption 5 “requires different treatment for materials reflecting deliberative or policy-making processes,” which Congress exempted from disclosure, “and purely factual, investigative matters” which are not exempt.); *New York v. U.S. Dep’t of Commerce*, 2018 WL 4853891, at *3 (S.D.N.Y. Oct. 5, 2018). The OMEGA v.1.4.59 core model falls decidedly at the factual, investigative end of the spectrum.

As described in more detail above, *supra* pages 6–8, OMEGA is comprised of several components, principally: inputs, the core model, and outputs. OMEGA “is designed to be flexible” to model a wide range of scenarios, but this investigative flexibility is achieved through

the user's modification of data inputs across different model runs. *E.g.*, EPA, *OMEGA Core Model Version 1.4.56*, at 7; *ibid.* (“Very few numeric values are hard-coded in the model, and consequently, the model relies heavily on its input files.”); *id.* at 47 (core model has a “simple” user interface as “all of the information needed to run the model is contained in the input files”); Lutsey Decl. ¶ 22. The core model itself is simply an “accounting” program, that reads the input data and performs a pre-set series of mathematical computations. *See id.* ¶¶ 9, 22. The core model outputs quantitative data that can then be used to inform agency decision-making.

In particular, if EPA wants to model a hypothetical potential emission standard, the information about that potential standard is contained in one of OMEGA's input data files, *not* in the core model. *See id.* ¶¶ 13, 22; Oge Decl. ¶ 16. In other words, the core model itself is scenario neutral—running the same inputs through the core model twice will yield the exact same results. *See Oge Decl.* ¶¶ 16, 20. To investigate different scenarios, a user changes OMEGA's inputs, not the core model. Thus, release of the core model will not disclose any additional information about potential standards the agency may have been considering. Any such information would be gleaned, if at all, from the files that EPA has already disclosed.

In short, OMEGA is an “investigative” tool—within which the core model is simply an “accounting” program—that does not “reflect[] deliberative or policy-making processes.” *Mink*, 410 U.S. at 89. Indeed, EPA itself has recently cautioned the public not to “conflate the analytical tool used to inform the decisionmaking with the action of making the decision,” 83 Fed. Reg. at 43,002/1. The OMEGA model “neither sets standards nor dictates where and how to set standards; it simply informs as to the effects of setting different levels of standards.” *Ibid.*; *accord id.* at 43,000/1.

In limited circumstances, factual records may be considered for deliberative protection where release would reveal “the process by which ‘factual material was assembled through an exercise of judgment.’” *Color of Change v. U.S. Dep’t of Homeland Sec.*, 325 F. Supp. 3d 447, 455 (S.D.N.Y. 2018) (quoting *Mapother v. Dep’t of Justice*, 3 F.3d 1533, 1539 (D.C. Cir. 1993)). But courts have recognized that programmed computer code does not reveal the process by which any judgment was exercised; the code at most reveals *what* was programmed, not *why* it was programmed that way or even *who* decided to program it that way.

Even where courts have considered modeling records more reflective of judgment than the core model here, those records have been held not deliberative. For example, in *Reilly v. EPA*, EPA sought to withhold a series of outputs from a computer model that projected mercury emissions from power plants. 429 F. Supp. 2d 335, 348–49 (D. Mass. 2006). Disclosure of model outputs would reveal EPA’s choice of model inputs, the latter of which the Court acknowledged were developed through “research and discussion within the EPA” and would “reveal . . . to some extent the agency’s thought process.” *Id.* at 352. But the court observed that “this is true of any investigation by which an agency seeks facts,” and, if EPA’s argument was accepted, an ostensibly narrow deliberative-process exemption would overwhelm FOIA’s disclosure mandate. *Ibid.* EPA could not invoke the exemption for the model outputs because the model as a whole was “an investigative technique utilized to generate raw data,” and it was “those facts that then serve[d] as the grist for the agency’s decision-making, that data which is debated and discussed.” *Id.* at 352–53. Although the court necessarily limited its holding to model outputs, it nonetheless

observed that “the internal workings of [the model],” *i.e.*, the core model, were “not in any way deliberative.” *Id.* at 353.⁵

Likewise, in *Lahr v. NTSB*, the agency sought to withhold a computer program that modeled aircraft flight paths for use in investigating the explosion of TWA Flight 800 off the coast of Long Island. 2006 WL 2854314, at *1, *23 (C.D. Cal. Oct. 4, 2006). Although an agency expert “may have used . . . judgment” in coding the program, the court found there was “no evidence that, by reviewing the disclosed source file, a reader would be able to understand or reconstruct the NTSB’s deliberative process.” *Id.* at *24. The program “was merely a tool used in connection with other data to derive a result based upon that data.” *Ibid.*; *accord, e.g., Carter v. U.S. Dep’t of Commerce*, 186 F. Supp. 2d 1147, 1155–56 (D. Or. 2001), *aff’d*, 307 F.3d 1084 (9th Cir. 2002) (release of census data derived from one possible calculation would not reveal agency’s deliberative process over whether to use that data). Like the computer models in *Reilly and Lahr*, OMEGA is an investigative tool that generates data—its output data may be “debated and discussed,” but that does not make the upstream core model itself deliberative.

Cleary, Gottlieb, Steen & Hamilton v. Dep’t of Health & Human Servs., 844 F. Supp. 770 (D.D.C. 1993), is perhaps in tension with *Reilly* and *Lahr*, as the court held a computer model exempt under the deliberative-process privilege on the ground that it was “inextricably intertwined” with the “deliberations,” “opinions,” and “mental processes” of its creator. *Id.* at

⁵ A model, by its nature, generates factual projections rather than indisputable facts. But the inherent uncertainty in any projection does not mean that the means of making the projection is so subjective as to be termed “deliberative.” *Cf. Kansas ex rel. Schmidt v. U.S. Dep’t of Defense*, 320 F. Supp. 3d 1227, 1243–44 (D. Kan. 2018) (observing that “the deliberative process privilege does not protect estimates made where the estimator followed a strict set of guidelines and made few subjective guesses.”). Models may, by their nature, also need updating over time. But the mere fact that a model is in a “draft” state during updating does not render it “deliberative” either. *Cf. NDLO*, 811 F. Supp. 2d at 741 & n.103.

783. *Cleary* was wrongly decided, but it also is readily distinguishable. Unlike the OMEGA core model, which has no specific author, Oge Decl. ¶ 20, in *Cleary* an identifiable single author, Dr. Philen, wrote a custom program “uniquely” tailored to a specific epidemiological database; further, Dr. Philen’s modeling required “continuous changes” in the selection of data from the database, and it was only the “frequent” iterative revisions to her program code, that, coupled with the output files, made it possible to trace “[her] mental processes.” *Cleary*, 844 F. Supp. at 782–83. No such frequent iterative tracing is possible here. Further, the OMEGA core model does not play a role in “the culling and selection of relevant facts.” *Id.* at 783. The culling and selection of facts in OMEGA occurs, if at all, in preparing the data files that EPA already has released for processing outside the core model.

Where it is employed, the OMEGA v.1.4.59 core model can be an element of a decision-making process by providing data for “debate[] and discuss[ion].” *Reilly*, 429 F. Supp. 2d at 353. But the core model does not *itself* “reflect the give-and-take of the consultative process.” *Brennan Ctr.*, 331 F. Supp. 3d at 93. The OMEGA core model is a specialized calculator, not an artificial intelligence advising EPA’s Administrator. It is non-deliberative and must be disclosed.

2. *The OMEGA v.1.4.59 core model is not “predecisional.”*

The second requirement of the deliberative-process privilege is that, in addition to being deliberative, the documents must also be “predecisional,” *i.e.*, “prepared in order to assist an agency decisionmaker in arriving at [a] decision,” *Renegotiation Bd. v. Grumman Aircraft Eng’g Corp.*, 421 U.S. 168, 184 (1975), on a “specific” issue “facing the agency,” *Tigue*, 312 F.3d at 80. The government “has the burden of establishing what deliberative process is involved, and the role played by the documents at issue in the course of that process.” *Coastal States Gas*

Corp. v. Dep't of Energy, 617 F.2d 854, 868 (D.C. Cir. 1980). EPA cannot carry that burden with respect to the OMEGA v.1.4.59 core model.

It is indisputable that EPA developed the OMEGA model to assist agency decisionmakers in establishing standards for GHG emissions from new automobiles under the Clean Air Act. *See supra*, pages 4–5. EPA historically has deployed the model to perform calculations that provide a factual foundation for those regulatory decisions. *See ibid.* But the relevant question here is whether *OMEGA v.1.4.59* – assuming it were a memorandum or letter that was also “deliberative” – played a role “in the course of [EPA’s] process” of setting GHG standards for cars and light trucks in its *current* rulemaking. *Coastal States*, 617 F.2d at 868.

EPA has answered that question definitively. The agency has stated that unpublished versions of the OMEGA model “were not used to develop the proposed rule.” Ex. J, at 2. In other words, according to EPA, OMEGA v.1.4.59 did not play *any* “role ... in the course of [EPA’s decisionmaking] process.” *Coastal States*, 617 F.2d at 868. Having announced not only that the agency is *not relying* on OMEGA v.1.4.59 to make its decision, *see* 83 Fed. Reg. at 43,000/1, but that the model was *not used* in the decisionmaking process, EPA cannot now invoke the protection of the deliberative-process privilege to keep OMEGA v.1.4.59 hidden from the public on the theory that it is “predecisional.”

C. Disclosure of the OMEGA v.1.4.59 core model would not disserve any purpose of the deliberative-process privilege.

The text of Exemption 5 does not cover the OMEGA v.1.4.59 core model, for reasons just explained. To the extent this Court remains unsure whether the model is exempt from disclosure, it should look to the animating purposes of the deliberative-process privilege:

- (1) “to assure that subordinates ... will feel free to provide the decisionmaker with their uninhibited opinions and recommendations without fear of later being subject to public ridicule or criticism”;

- (2) “to protect against premature disclosure of proposed policies before they have been finally formulated or adopted”; and
- (3) “to protect against confusing the issues and misleading the public by dissemination of documents suggesting reasons and rationales for a course of action which were not in fact the ultimate reasons for the agency’s action.”

Coastal States, 617 F.2d at 866 (quoted with approval in *Tigue*, 312 F.3d at 76). None of those purposes will be frustrated by disclosure of the OMEGA v.1.4.59 core model to the public.

First, disclosing the core model will not “subject [EPA subordinates] to public ridicule or criticism.” *Coastal States*, 617 F.2d at 866. The core model is not the work of any one employee who could be singled out for criticism. *See* Oge Decl. 3, ¶ 11. Nor does the core-model program code contain or reflect “opinions and recommendations,” *Coastal States*, 617 F.2d at 866; it is a sequence of instructions to a computer to process input data, data for which EPA claimed no exemption from disclosure. The law demands that EPA “assess manufacturers’ response to policy alternatives,” 83 Fed. Reg. at 43,022/3, and project automakers’ “cost of compliance” with GHG-emission standards, 42 U.S.C. § 7521(a)(2). EPA will not cease making those projections, or abandon the enterprise of modeling industry’s response to regulation, merely because the agency’s best efforts will be disclosed to the public. After all, routine disclosure of OMEGA updates through 2016 did not hinder development of EPA’s model or its standards; to the contrary, disclosure *improved* the model and the decisionmaking process by inviting robust public feedback. *See* Oge Decl. 7, ¶ 26.

Second, there is no danger that disclosing *this version of the* core model will “premature[ly] disclos[e] ... proposed policies before they have been finally formulated or adopted.” *Coastal States*, 617 F.2d at 866. Because OMEGA v.1.4.59 “was not used to develop [EPA’s] proposed rule,” Ex. I, at 2, there is no reason to believe that this version embodies or reflects the agency’s proposed policy. Indeed, as noted earlier, the core model is, by nature,

scenario neutral; it takes its cues from input files that the agency already has disclosed to Plaintiffs without objection. *See supra*, pages 16–17.

Third, EPA has made clear that “the ultimate reasons for [its] action” are not dependent on facts derived from OMEGA v.1.4.59. *Coastal States*, 617 F.2d at 866. Disclosing the model thus will not “confus[e] the issues” or “mislead[.]” the public to think that EPA *has* relied on the model to inform its decision. *Ibid*. But FOIA exists to ensure that the public has access to important government records, and the OMEGA core model is of significant public interest precisely because EPA has thus far *not* taken the results of its own model into account in its upcoming decision. If this Court orders the model released, Plaintiffs—and the public at large—will be able to run the model, publicize the results, and place those results in the rulemaking docket. The Court should not permit EPA to use the deliberative-process privilege to abet its “deliberate[.] or negligent[.] exclu[sion]” from the public record of facts “adverse to its decision.” *Am. Wildlands v. Kempthorne*, 530 F.3d 991, 1002 (D.C. Cir. 2008) (citation omitted); *cf. Elec. Privacy Info. Ctr. v. Dep’t of Justice*, 416 F. Supp. 2d 30, 41 & n.9 (D.D.C. 2006) (“meaningful debate” about government activity “cannot be based solely upon information that the Administration voluntarily chooses to disseminate”). In these circumstances, it is disclosure, not secrecy, that will “prevent injury to the quality of agency decisions.” *NLRB v. Sears, Roebuck & Co.*, 421 U.S. 132, 151 (1975).

In summary, EPA’s withholding of the OMEGA v.1.4.59 core model under Exemption 5 contravenes both the language and purpose of that exemption. Secreting the model does not “further the goal of promoting sound decisions and policies,” *Fox News Network, LLC v. U.S. Dep’t of the Treasury*, 911 F. Supp. 2d 261, 266 (S.D.N.Y. 2012); it does the opposite. The proper remedy for EPA’s improper invocation of Exemption 5 is to compel EPA to produce the

withheld records. *See* 5 U.S.C. § 552(a)(4)(B); *Tax Analysts*, 492 U.S. at 151 (“agency records which do not fall within one of the exemptions are ‘improperly’ withheld”). Plaintiffs ask that such an order issue promptly.

II. THE COURT SHOULD EXPEDITE DISPOSITION OF THIS CASE UNDER THE CIVIL PRIORITIES ACT.

The Civil Priorities Act provides that a federal court “shall expedite the consideration of any action ... if good cause therefor is shown.” 28 U.S.C. § 1657(a). That Act singles out FOIA alone as a statute under which expedited review may be warranted. *Ibid.* Because “[s]peed is an essential element in” FOIA suits, Plaintiffs’ claim of good cause should “‘be liberally construed.’” *Ferguson v. F.B.I.*, 722 F. Supp. 1137, 1144 (S.D.N.Y. 1989) (citation omitted). *Accord Brennan Ctr.*, 300 F. Supp. 3d at 547.

Good cause exists to expedite consideration of this case. The agency records withheld by EPA are, in Plaintiffs’ view (though not EPA’s), “of central relevance to” a pending rulemaking, 42 U.S.C. § 7607(d)(4)(B)(i), that the agency plans to finalize in the near future, *see* Valerie Volcovici, *California sues U.S. agencies over data on vehicle emissions freeze*, REUTERS (Apr. 5, 2019) (Ex. L). As soon as the core model is released, Plaintiffs will use it to run OMEGA based on the already released inputs and, with sufficient time, will be able to lodge the resulting outputs in the rulemaking docket. EPA has pledged to “consider comments” submitted until the rule is finalized “[t]o the extent practicable.” 83 Fed. Reg. at 43,471/1. Plaintiffs will be harmed if they do not receive the core model with sufficient time remaining before EPA issues a final rule to make public differences between the analysis EPA has relied on and the results of its own

OMEGA model. Moreover, the odds that the agency will assert that it is “impracticable” to address any OMEGA model results increase rapidly as the date of finalization approaches.⁶

The importance of accurate information on compliance costs to EPA’s standard-setting for GHG emissions from new vehicles, and the importance of those standards in protecting the public from the devastating impacts of climate change, mean that Plaintiffs’ “request for expedited consideration has merit.” 28 U.S.C. § 1657(a). The government itself has estimated that 7.4 billion additional tons of carbon pollution are at stake in EPA’s rulemaking—more than a year’s worth of carbon emissions by the United States as a whole. *Compare* NHTSA, *Draft Environmental Impact Statement for the Safer Affordable Fuel Efficient (SAFE) Vehicles Rule*, at S-18, NHTSA Dkt. No. 2017-0069 (July 2018), *with* EPA, *Inventory of U.S. Greenhouse Gas Emissions and Sinks 1990-2017*, at ES-4, Doc. EPA 430-P-19-001 (April 2019).

Plaintiffs are filing this motion a mere seven days after EPA issued its final determination on their FOIA request. The parties have stipulated to a briefing schedule whereby cross-motions for summary judgment should be fully briefed by May 23, 2019. JSR at 2. There is only one legal issue in this case: whether Exemption 5 covers a bounded, agreed-upon set of EPA records. Given EPA’s plans to finalize a rulemaking by “late spring or early summer,” Ex. L, Plaintiffs respectfully request an order compelling the records to be produced on or before June 17, 2019.

CONCLUSION

This Court should grant Plaintiffs summary judgment, declare Exemption 5 inapplicable to the latest full version of the OMEGA model, including the OMEGA v.1.4.59 core model, and order EPA to produce it on or before June 17, 2019.

⁶ Plaintiffs could petition EPA for reconsideration after a rule is finalized, but a proceeding for reconsideration does “not postpone the effectiveness of the rule.” 42 U.S.C. § 7607(d)(7)(B).

Dated: April 8, 2019

Respectfully submitted,

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DECLARATION OF MARGO OGE

I, Margo Oge, declare as follows:

Background

1. From 1994 until my retirement in 2012, I served as the Director of the Office of Transportation and Air Quality (“OTAQ”) of the Environmental Protection Agency (“EPA”). In that capacity, I oversaw development of EPA’s greenhouse-gas (“GHG”) emission standards for light-duty vehicles. I also oversaw OTAQ’s creation, development, and use of the Optimization Model for reducing Emissions of Greenhouse gases from Automobiles (“OMEGA model”).

2. I hold bachelor’s and master’s degrees in engineering from the University of Massachusetts, Lowell. I also studied economics at George Washington University and leadership and management at Harvard University’s John F. Kennedy School of Government.

3. I have received Presidential Awards from President Bill Clinton and President George W. Bush. I have also received the California Air Resources Board’s Haagen-Smit Clean Air Award, given to recognize individuals’ significant achievements in air quality, and I have received numerous other environmental and industry awards in recognition of my work on environmental issues.

4. I currently serve on a number of boards and committees, including Vice Chair at the International Council on Clean Transportation (ICCT), the Global Sustainability Council for Volkswagen Group, and the Union of Concerned Scientists. I also serve on the National Academy of Science (NAS) Advisory Committee on Climate Change Research, and serve as a distinguished fellow at Climate Works Foundation.

EPA's Greenhouse Gas Emission Standards for New Motor Vehicles

5. In 2009, EPA found that current and projected atmospheric concentrations of GHGs threaten public health and welfare and that GHG emissions from new motor vehicles contribute to this pollution.¹ EPA's publication of those findings triggered its duty under the Clean Air Act to establish federal standards for GHG emissions from new motor vehicles.

6. The Clean Air Act requires that such standards "take effect after such period as the Administrator finds necessary to permit the development and application of the requisite technology, giving appropriate consideration to the cost of compliance within such period."²

7. For any given level of GHG emissions, there are a vast number of combinations of emissions-reduction technologies which could produce the GHG emissions reductions needed to bring an automobile manufacturer into compliance with that standard. Yet different technologies have different costs, and the lead time that a manufacturer needs to apply technologies into its fleet—as constrained by standard refresh and redesign cycles for vehicles—can be affected by cost feasibility. The variations mean that, in order to decide the "necessary" lead time and associated costs for an emission standard under consideration, EPA must examine how automobile manufacturers are expected to apply different emission-reduction technologies in their fleets to meet a given emission standard.

Development and History of Public Disclosure of the OMEGA Model

8. To enhance the agency's understanding of that particular factual issue, OTAQ—under my leadership—created and developed the Optimization Model for reducing Emissions of Greenhouse Gases from Automobiles ("OMEGA"), a computational tool that projects how

¹ EPA, *Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act*, 74 Fed. Reg. 66,496 (Dec. 15, 2009).

² 42 U.S.C. § 7521(a)(2).

automobile manufacturers would apply technologies in a cost-effective way and then projects the cost of compliance to achieve greenhouse gas emissions reductions. EPA used this tool to generate data to inform the first and second phases of its GHG emission standards for light-duty vehicles (issued in 2010 and 2012, respectively), the first phase of standards for heavy-duty vehicles (issued in 2011), and the initial planning for the second phase of standards for heavy-duty vehicles (later issued in 2016).

9. Consistent with practices of good government, the development of the OMEGA model was a collaborative and open process. OTAQ staff worked with their counterparts at the National Highway Traffic Safety Administration and the California Air Resources Board, and the model was subject to a rigorous peer-review process. EPA also received and responded to comments on the OMEGA model from automobile manufacturers and other interested parties. The model's algorithms and inputs were regularly updated as technologies and their costs changed. Tear-down analyses and research were used to validate the model's outputs.

10. The inputs to OMEGA do not reflect the assessment of any single EPA employee, but rather consist of datasets of publicly available information and the collective assessments of agency experts based on the best available science and peer-reviewed research.

11. The contours of the OMEGA model itself—including its source code—do not reflect the work of any single EPA employee, but rather the collective work of many different agency experts based on the best available science and peer-reviewed research.

12. OTAQ intentionally designed the OMEGA model to be transparent and publicly accessible. The model was designed not to incorporate or rely on confidential information from manufacturers or any other businesses. The model intentionally used open-source software.

13. Beginning in 2010, with the first full version of the model used to inform EPA’s analysis, the public was able to download the model itself, along with all associated files, so that interested stakeholders could inspect OTAQ’s results and conduct their own modeling runs.

14. Because emissions-reduction technologies, the vehicle fleet, and the standards themselves change over time, EPA periodically updated the model. OTAQ has historically released these updates to the public—with each release including not only the current version of the OMEGA model source code but also the latest inputs, pre-processors, and outputs.

15. As is typical of OTAQ models, “OMEGA is primarily an accounting model” that does not contain or reflect subjective policy judgments, nor does it attempt or purport to balance the statutory or regulatory factors EPA must consider when establishing standards.³ Each run of the OMEGA model generates a comprehensive, voluminous, but user-friendly data set to inform EPA’s determination of the appropriate GHG emissions standards for new motor vehicles.

16. Because the OMEGA model and its outputs simply reflect the inputs fed into the model, and EPA uses different sets of inputs to reflect different scenarios, disclosing the model and associated files did not reveal internal agency deliberations during the rulemaking process, or the reasons why EPA might or might not adopt a particular standard.

17. As OTAQ Director, I was never concerned about disclosure of the OMEGA model to the public harming the agency or its deliberative process. To the contrary, I expected that the model and the files needed to use it would continue to be released to the public, so that the model could continue to be refined using public comments.

³ EPA, *Regulatory Impact Analysis: Final Rulemaking for 2017-2025 Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards* at 3-3, EPA-420-R-12-016 (Aug. 2012).

Mechanics of the OMEGA Model

18. The OMEGA model draws on a variety of numerical inputs to project, for each of several hypothetical standards that EPA might establish for GHG emissions from new vehicles in future model years, how manufacturers will opt to comply with those standards and the associated costs—in other words, which emissions-reducing technologies manufacturers will use, when they will incorporate those technologies into each of their vehicles, and how much those technologies will cost to apply.

19. Among the data inputs to the OMEGA model are a quantitative description of the vehicle fleet, including automobile-manufacturer sales, emissions, and existing emission-control technologies. The OMEGA model is also supplied with an externally created list of technologies (or packages thereof) to add to different vehicles; schedules of costs and effectiveness of those technologies at reducing GHG emissions, alone and in combination with other technologies; and constraints on the percentage of vehicle sales to which each technology can be added on different time scales. The OMEGA model simply combines this data with other economic inputs, like fuel prices, to project how each manufacturer will apply technologies to meet various GHG emission targets. Modeling is an efficient, rigorous way for EPA to investigate the lowest-cost technology pathway under different regulatory scenarios, and the cost to meet each specific emissions target.

20. The end product of the OMEGA model is a series of data output files. These files contain detailed information about the technologies projected to be added to each vehicle and the resultant costs and GHG emissions. The outputs do not recommend policies; they are objective data points that reflect straightforward application of the OMEGA model to the inputs provided.

21. These outputs provide a factual foundation that EPA can use to consider the options for GHG emission standards, so that EPA can set a standard compliant with the Clean

Air Act. I agree with the agency's 2010 statement that "[t]he OMEGA modeling is used by EPA to forecast potential compliance paths, not to determine the level of the standard."⁴ I am not aware of any EPA official who perceived that OMEGA itself proposes agency policies.

22. *After* conducting model runs, EPA employees would analyze the raw outputs of the model, decide on the key takeaways, and summarize selected model results in decision memos and briefings for policymakers. Those policymakers would then evaluate different regulatory options before final decisions on the level and timing of the standards were made.

EPA's Recent Attempts to Withhold the OMEGA Model from the Public

23. I have reviewed the discussion in EPA's August 2018 proposed rule to revise the model year 2021-2026 GHG emission standards indicating that the agency is *not* relying on the OMEGA model to inform that rulemaking.⁵ I also have reviewed a letter from EPA to an official of the California Air Resources Board stating that the OMEGA model was "not used to develop the proposed rule."⁶

24. I understand that EPA did not disclose the OMEGA model or associated files in connection with this proposed rulemaking, contrary to historical EPA practice. When I directed OTAQ, I oversaw the affirmative publication of four different iterations of the OMEGA model (v1.0.2, v1.3.1, v1.4.0, and v1.4.1), along with all supporting files needed to run each version of

⁴ EPA, Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards, *EPA Response to Comments Document for Joint Rulemaking* at 4-11, EPA-420-R-10-012a (Apr. 2010).

⁵ EPA & NHTSA, *The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021-2026 Passenger Cars and Light Trucks*, 83 Fed. Reg. 42,986, 43,000-01, 43,022 (Aug. 26, 2018).

⁶ Letter from John Shoaff, Director, EPA Office of Air Policy and Program Support, to Ellen Peter, California Air Resources Board, at 2 (Oct. 23, 2018) (attached hereto).

the model.⁷ The OMEGA model is intended to be public, and EPA's newfound unwillingness to release it goes against the agency's stated goals of transparency and public engagement.

25. I have reviewed EPA's letter to the Natural Resources Defense Council and the Environmental Defense Fund of March 4, 2019, in which the agency refuses to release the latest full version of the OMEGA model on the ground that it is "exempt from disclosure because it is predecisional and deliberative and would harm agency decision making if released."

26. Based upon my experience and previous Agency practice, I do not believe the release of the latest full version of the OMEGA model (including the source code) would harm the agency's decision making process. And I do not believe the release of OMEGA would disclose the content of any agency policy discussions. Disclosure of the model and associated files *improved* EPA's decision making while I was at EPA through peer review and extensive feedback from stakeholders. I also do not understand how "agency decision making" could be harmed by release of a model that the agency has stated it is not relying on to make its upcoming decision.

I declare under penalty of perjury that the foregoing is true and correct.


Margo Øge

Dated April 5, 2019

⁷ See EPA, Optimization Model for reducing Emissions of Greenhouse Gases from Automobiles (OMEGA), <https://www.epa.gov/regulations-emissions-vehicles-and-engines/optimization-model-reducing-emissions-greenhouse-gases> (last accessed April 4, 2019).

DECLARATION OF DR. NICHOLAS LUTSEY

I, Dr. Nicholas Lutsey, declare as follows:

Background and Experience with the OMEGA Model

1. I am the Program Director of U.S. activities for The International Council on Clean Transportation (ICCT), an independent nonprofit organization founded to provide unbiased research and technical and scientific analysis to environmental regulators. I lead ICCT's electric vehicle and fuels research program and manage its role as the Secretariat for the International Zero-Emission Vehicle Alliance. Through my work at ICCT and past positions, I have substantial experience with the U.S. Environmental Protection Agency's (EPA's) greenhouse gas (GHG) emission standards for light-duty vehicles, including the technical modeling that supports those standards. I collaborated with the agency on the development of its Optimization Model for reducing Emissions of Greenhouse gases from Automobiles (OMEGA), which I provided extensive feedback on while I was conducting a parallel modeling evaluation of vehicle emission-reduction technologies.

2. I received a Bachelor of Science degree in Agricultural and Biological Engineering from Cornell University and an M.S. and Ph.D. in Transportation Technology and Policy from the University of California, Davis.

3. I participated in the development of the 2004 and 2012 GHG emission standards for light-duty vehicles while working with the California Air Resources Board (CARB). From 2003 to 2006, I worked as a research analyst as a consultant to CARB on the development of California's first GHG emission standard for light-duty vehicles.¹ My analysis involved

¹ The Clean Air Act allows California to set its own state standards for emissions from light-duty vehicles, subject to some conditions.

assessing the available technologies to reduce vehicle GHG emissions, the cost of those technologies, the pace at which they can enter the vehicle fleet, and the regulatory timing. I conducted assessments of technology costs and impacts at the per-vehicle and fleet-wide levels.² The associated GHG analysis I led provided the fundamental basis for stringency and cost-benefit analysis for California's GHG standards for Model Year (MY) 2009-2016 light-duty vehicles.

4. From 2008 to 2012, I again worked with CARB to analyze the availability and effectiveness of emission-reduction technologies. My initial analysis for CARB was to review the EPA OMEGA modeling of the federal MY 2012-2016 standards and assess how the federal program aligned with California's original MY 2009-2016 standards. Following this, my role was to again lead the regulatory technology and cost assessment for CARB. This included reviewing and contributing to the drafting of the GHG emission standards for MY 2017-2025 vehicles. This was part of a joint technical assessment conducted by CARB, EPA, and the National Highway Traffic Safety Administration (NHTSA) that ultimately led to the adopted MY 2017-2025 standards. I spent hundreds of hours with EPA and NHTSA staff discussing the technical modeling that was necessary to support those regulations.³ Each agency used a unique tool to analyze technology costs and feasibility—EPA staff used the Optimization Model for reducing Emissions of Greenhouse gases from Automobiles (OMEGA); NHTSA staff used a model generally known as the Volpe model; and CARB used its own regulatory evaluation modeling, of which I led the development.

² Some results of this work are presented in the CARB Staff Report: Initial Statement of Reasons for Proposed Rulemaking, Public Hearing to Consider Adoption of Regulations to Control Greenhouse Gas Emissions from Motor Vehicles (Aug. 6, 2004), available at <https://www.arb.ca.gov/regact/grnhsgas/isor.pdf>.

³ NHTSA has statutory authority to set corporate average fuel economy (CAFE) standards.

5. Over the course of that multi-year, interagency collaboration, I developed an intimate understanding of how EPA's OMEGA model functions, including how the inputs and outputs are developed and formatted, as well as the structure of the core model. I spoke at length with EPA staff about their development and operation of the OMEGA model, as I developed CARB's parallel regulatory development modeling. Through this process, I reviewed and provided constructive input to EPA staff regarding the OMEGA approach, inputs, and outputs many times and developed a detailed understanding of EPA's tool.

6. I have co-authored 19 peer-reviewed journal articles and dozens of reports on vehicle technology potential, regulatory design, and policy cost-effectiveness. Most of these technical reports assess the technologies, associated costs, and emission-reduction benefits associated with vehicle policy, and thus are closely related to the foremost questions of the OMEGA modeling. In 2017, I co-authored a report, *Efficiency Technology and Cost Assessment for U.S. 2025–2030 Light-Duty Vehicles*, which incorporated recent industry research and modeling to update EPA's technology and cost assessments for the MY2017-2025 standards.⁴ Our report directly used and modified EPA's OMEGA modeling framework to assess fleet impacts from alternative regulatory and technology scenarios with updated inputs. The reports I co-authored are further detailed in an attached list of publications, which is titled Exhibit A.

7. In 2015, I received the Society of Automotive Engineers (SAE) International Barry D. McNutt Award for Excellence in Automotive Policy Analysis, which SAE awards to "individuals who have made outstanding contributions to the development of improved federal

⁴ Lutsey et al., *Efficiency Technology and Cost Assessment for U.S. 2025–2030 Light-Duty Vehicles*, ICCT (Mar. 2017), available at <https://www.theicct.org/publications/US-2030-technology-cost-assessment>.

automotive policy” in order to recognize “the importance of sound policy analysis.”⁵ This award is due to my analysis on the technology, cost, and lead-time considerations related to the California and U.S. light-duty vehicle GHG standards and related scholarship in the research literature. I received a Gold Certificate of Appreciation in 2005 and the Gold Superior Accomplishment Award in 2012 from CARB. These CARB awards were for my technical modeling of the 2009-2016 and 2017-2025 regulations, and the underlying technology, cost, and compliance analysis that mirrored the federal OMEGA analysis.

Purpose and Function of the OMEGA Model

8. The Clean Air Act requires that GHG emission standards for new motor vehicles “take effect after such period as [EPA] finds necessary to permit the development and application of the requisite technology, giving appropriate consideration to the cost of compliance within such period.”⁶

9. EPA designed OMEGA to provide a factual foundation for that finding. There are “an almost infinite number of technology combinations” that could produce a desired level of emissions reductions.⁷ OMEGA is a mathematical accounting tool that uses the best available data to calculate which technology pathway each automaker is likely to follow to reduce vehicle greenhouse gas emissions while maximizing cost-effectiveness. Generally, an accounting model

⁵ SAE International, Barry D. McNutt Award for Excellence in Automotive Policy Analysis (accessed on Mar. 20, 2019), <https://www.sae.org/participate/awards/barry-d-mcnutt-award-for-excellence-in-automotive-policy-analysis>.

⁶ 42 U.S.C. § 7521(a)(2).

⁷ EPA, Regulatory Impact Analysis: Final Rulemaking to Establish Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards (“RIA”) at 4-1, Doc. No. EPA-420-R-10-009 (Apr. 2010); *see also* EPA, OMEGA Model Documentation v.1.4.56 at 3, Doc. No. EPA-420-B-16-064 (July 2016), *available at* <https://www.epa.gov/regulations-emissions-vehicles-and-engines/optimization-model-reducing-emissions-greenhouse-gases>.

organizes factual data according to certain assumptions, which are included as technical inputs using a series of algorithms. I worked collaboratively with EPA, as part of the joint-agency coordination between EPA, CARB, and NHTSA, as EPA was developing OMEGA during its first rulemaking to set GHG standards for cars and trucks and further refining OMEGA in the second rulemaking.

10. The goal of OMEGA is to estimate when and how each automaker will add different emissions-reduction technologies to its vehicle fleet to meet a given Clean Air Act emission standard.⁸ As the National Research Council has explained, OMEGA “shows ... a demonstration of possibility, not a forecast of the future.”⁹

The Components of the OMEGA Model

11. The OMEGA model consists of multiple components, all of which are necessary for a user to successfully operate the model and generate outputs. Although I recognize the following is a simplification of the steps the EPA modeling process entails, the principal components of the analysis include the following –

- a. input files: these are Microsoft Excel spreadsheets containing raw data. The inputs are loaded into the pre-processors or the core model in order to establish baseline information about the state of vehicles, technology, and costs (specific input files are explained below);
- b. pre-processors: some of these are are Microsoft Excel spreadsheets and some are scripted computer programs written in Visual Basic or MATLAB.

⁸ RIA at 3 (Apr. 2010).

⁹ National Research Council, *Cost, Effectiveness and Deployment of Fuel Economy Technologies for Light-Duty Vehicles* at 355-56 (2015), <https://www.nap.edu/catalog/21744/cost-effectiveness-and-deployment-of-fuel-economy-technologies-for-light-duty-vehicles>.

Pre-processors help organize raw inputs into datasets that can be read by the core model (for example, one pre-processor sorts technology options into groups of technology packages, as explained below);

- c. the core model: this is an executable computer program written in the C# programming language. The program receives input files refined by the pre-processors, and applies algorithms to that data in order to determine emission-reduction technology combinations that each manufacturer could apply to the vehicles in its fleet under a given GHG emission limit. The program produces output files that state those specific technology combinations;
- d. output files: these are Microsoft Excel spreadsheets detailing OMEGA's calculation of which technologies automakers could deploy to meet the emission limit. The outputs also detail the per-car, per-truck, and combined per-vehicle compliance cost for each auto manufacturer and for the industry as a whole, and the specific emissions estimates;¹⁰ and
- e. post-processors: some of these are Microsoft Excel spreadsheets and some are scripted computer programs written in Visual Basic or MATLAB. Post-processors organize certain raw outputs into more usable datasets (for example, the benefits post-processor "produces a national scale analysis of the impacts" of the standard being modeled, including emission reductions, monetized co-benefits, and safety impacts).¹¹

¹⁰ EPA, OMEGA Model Documentation v.1.4.56 at 42, Doc. No. EPA-420-B-16-064 (July 2016).

¹¹ EPA, Regulatory Impact Analysis: Final Rulemaking for 2017-2025 Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards ("RIA"), at 4-110, Doc. No. EPA-420-R-12-016 (Aug. 2012).

12. Of the components of OMEGA described above, I am aware that EPA is withholding part (c), the core model. I am aware that EPA is claiming that this component is deliberative and exempt from release.

Running the OMEGA Model

13. To run the OMEGA model, a user gathers the necessary input data. This includes: the market data (a detailed breakdown of all the unique vehicle models on the market from a baseline current market fleet and projections into the near future), the technology data (the available emission-reduction technologies and their corresponding cost), the scenario data (the potential GHG emission limit for the auto industry to comply with), and other inputs (including fuel prices and other relevant, objective factors). Once that data is refined, the core model is ready to run.

14. An EPA flow chart describing the various stages is reproduced below,¹² followed by additional detail describing each stage. This flow chart is consistent with my experience collaborating with EPA staff and applying OMEGA.

¹² Draft TAR, Appendix C, Figure C1., at C-18.

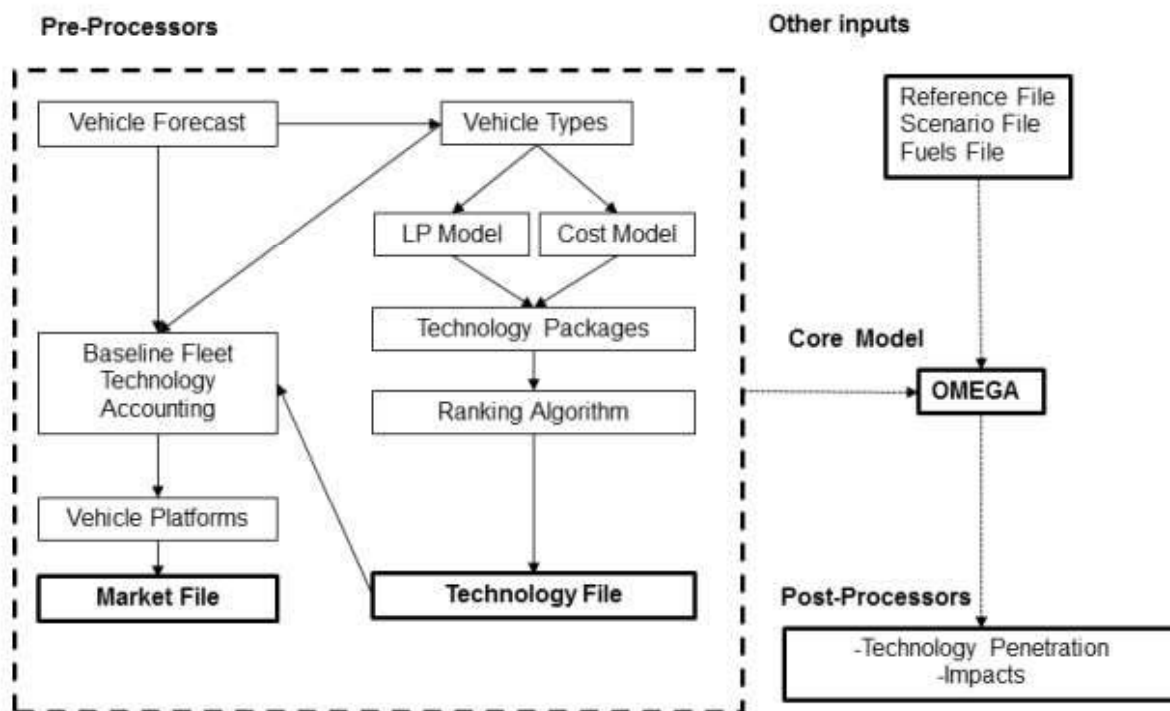


Figure C.1 Information Flow in the OMEGA Model

15. *Developing the market file:* The first set of input data is the market file, which provides a description of the vehicle fleet. This file includes several characteristics for each vehicle model: vehicle manufacturer; make and model; powertrain details; projected sales volume; carbon dioxide (CO₂) emissions; fuel type; vehicle footprint.¹³ One of the pre-processors used to create the market file, the baseline fleet accounting pre-processor, accounts for emission-reduction technologies that vehicles are already equipped with, to avoid the model adding a technology to a vehicle where that technology is already in use.

16. *Developing the technology file:* The second category of input data is the technology file, which describes and ranks emission-reduction technologies available to manufacturers, as further detailed below.

¹³ RIA at 3-6 (Aug. 2012); Draft TAR, Appendix C, at C-1.

17. EPA first assembles a portfolio of all vehicle GHG emission-reduction technologies and for each describes the associated cost, effectiveness, compliance credit value, and fuel consumption.

18. A long list of various emission-reduction technologies is compiled, including engine technologies, tires, transmission options, and hybrid and electric vehicle options.

19. Once the list is assembled, the technologies are grouped into technology packages (i.e., combinations of multiple technologies applied together) containing sets of attributes that an automaker could feasibly implement to reduce a vehicle's emissions, based on technical feasibility and their relative cost effectiveness.

20. *Running the OMEGA model:* Each "run" of the OMEGA model is a chain of many thousands of calculations, conducted by algorithms that are written into the source code. Using the input files, the model determines the specific emission standard applicable for each manufacturer and its vehicle class (car or truck). Then the model determines the emission standard applicable to each manufacturer's car and truck sales.¹⁴ For each auto manufacturer, the model adds technology packages until that manufacturer meets the applicable standard. This process yields factual information: the cost to each auto manufacturer, per vehicle, to implement the technology needed to meet a given GHG emission standard.¹⁵ That information is grouped into multiple data outputs, in the form of Microsoft Excel spreadsheet files.

21. *Applying post-processors:* Post-processors convert data outputs from the core OMEGA model into relevant datasets. In particular, the impacts post-processor calculates outcomes like the nationwide non-GHG emissions impacts and consumer fuel savings, based on

¹⁴ RIA 3-27 (2012).

¹⁵ See RIA 3-84 (2012).

the results of the core OMEGA model. The technology penetration post-processor calculates the deployment of different technologies across the fleet, again based on the results of the core OMEGA model.

22. Based on my experience with the development, use, and review of OMEGA, I would characterize it as an accounting tool that does not reflect or apply any policy preferences. The model source code and pre-processor files do not contain or reflect subjective policy judgments. Very few numeric values are hard-coded in the pre- and post- processors or the source code, as the model is meant to be built upon the input-file technology and cost data and the externally determined GHG-emission target.¹⁶ The core model is designed to simply generate output files based on whichever GHG emission standards are set in the scenario input file. I understand that, in the context of the Freedom of Information Act request by the Environmental Defense Fund and the Natural Resources Defense Council and this litigation, EPA has claimed that the core model is exempt from release under the “deliberative process privilege.” I do not agree with that assessment. The model is a computational tool—a type of specialized calculator—and thus is not the deliberation of any person at the agency. It is not appropriate for the agency to withhold the use, review, and sharing of an objective, world-class analytical tool.

Public Use of the OMEGA Model

23. Since EPA first created the OMEGA Model, EPA has consistently published updated versions of OMEGA. In my experience analyzing the GHG emission standards and tracking regulatory developments in this area, the agencies that have participated in rulemakings

¹⁶ U.S. EPA, Model Documentation: EPA Optimization Model for Reducing Emissions of Greenhouse Gases from Automobiles (OMEGA), Core Model Version 1.4.56, EPA-420-B-16-064 (July 2016), available at <https://www.epa.gov/regulations-emissions-vehicles-and-engines/optimization-model-reducing-emissions-greenhouse-gases>.

have always published their models. This allows the public to understand the factual underpinnings for such determinations, review the models, and provide applicable feedback to the agencies. Such transparency brings confidence and improvement in the immediate modeling and also leads to modeling improvements in future iterations. It allows me, my colleagues at the ICCT, and other members of the scientific and public interest community to use the models themselves to assess the effects of alternative GHG emission standards for vehicles. By making our results from our own use of OMEGA public, we would be able to inform interested members of the public on our findings.

24. As EPA's website indicates, the Agency has regularly published the complete version of OMEGA—including the model inputs, pre-processors, model, and post-processors—which allows members of the public such as myself to run the model ourselves. Since 2010, EPA has released five different updates to the full model, including the original 2010 model and revised versions made in 2012 and again in 2016.

25. I understand that EPA has a complete, revised version of the OMEGA Model, designated version 1.4.59, but has not made this version public. Public interest in the updated OMEGA is particularly great because in August 2018, EPA and NHTSA issued a proposed rule for MY 2021-25 vehicles that would significantly alter the trajectory of the currently adopted GHG emission standards. The proposed rule presents only cost information developed through use of NHTSA's model, called the Volpe Model. The costs presented in the proposal are significantly higher than prior estimates by EPA and NHTSA. Disclosing only one of the two models was a stark departure from the agencies' past practice. This retraction from previous transparency practices gives me – and my colleagues at the ICCT and the broader scientific and public interest community – a lower degree of confidence in the results and provokes questions

about why the results in the Volpe modeling have so greatly departed from the previous rulemaking and joint Draft Technical Assessment Report.¹⁷

26. Because the current version of OMEGA is not public, my colleagues at ICCT and I are unable to use the model. ICCT staff, including co-authors of papers that I have contributed to, have previously used the OMEGA model to assess the GHG emission standards set by EPA, NHTSA, and CARB for light-duty vehicles.¹⁸

27. Based on information published in the current rulemaking docket, it appears that EPA staff ran the updated OMEGA model to estimate the impact of altering the MY 2021-2025 standards, and presented this estimate to the Office of Management and Budget.¹⁹ I have reviewed the presentation that EPA staff made to OMB staff describing their modeling work, and this document is attached to my declaration as Exhibit B. In that presentation, the cost of achieving the existing GHG emission standards, as calculated by OMEGA, is dramatically lower than the cost calculated using NHTSA's Volpe model. Because cost is a consideration when EPA sets vehicle emission standards, this presentation suggests that replacing the Volpe calculation with the OMEGA calculation would substantially affect EPA's analysis of whether standards at various levels are appropriate and necessary. However, the latest version of the OMEGA model files were not released with the presentation. Without releasing the complete set

¹⁷ EPA published a Technical Assessment Report in 2016, known as the Draft TAR, as part of an evaluation of the MY 2022-2025 light-duty vehicle GHG emission standards.

¹⁸ See, e.g., Lutsey et al., *Efficiency Technology and Cost Assessment for U.S. 2025–2030 Light-Duty Vehicles*, ICCT (Mar. 2017), <https://www.theicct.org/publications/US-2030-technology-cost-assessment>

¹⁹ See E.O. 12866 Review Materials for The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021-2026 Passenger Cars and Light Trucks NPRM, File: "Email 5" at 113 (posted Aug. 14, 2018). <https://www.regulations.gov/document?D=EPA-HQ-OAR-2018-0283-0453>.

of updated OMEGA files, the public is left to wonder why EPA's modeling results differ from the Volpe results, and what insights the OMEGA results could provide.


28. Because the OMEGA model is widely regarded as a state-of-the-art, objective tool, ICCT has used a modified version of OMEGA, tailored to other vehicle markets, to assess the technology and cost implications of GHG standards in other countries.²⁰

29. The ICCT's OMEGA-based modeling has been used to help other countries consider GHG standards, including harmonizing to the U.S. standards. Because EPA has not published its latest OMEGA model, we would only be able to use the outdated version of the model in any similar assessment.

²⁰ Posada, F., et al., Assessing Canada's 2025 passenger vehicle greenhouse gas standards: Technology deployment and costs, ICCT (Sept. 12, 2018), <https://www.theicct.org/publications/canada-2025-cafe-standards-techcost>

30. Based on my experience researching vehicle technologies and government standards restricting vehicle pollution, it is normal and expected that EPA would publish the OMEGA model. EPA's historic practice of releasing the OMEGA model is aligned with other agencies that I have considered. NHTSA has published its associated analytical modeling for the associated, ongoing rulemaking.²¹ CARB publishes its associated analytical details for its associated rulemakings.²² Moreover, the core model of OMEGA is a technical computational tool that does not contain or reveal any agency deliberations. It is antithetical to that practice for EPA to decline to publish the model now.

I declare under penalty of perjury that the foregoing is true and correct.



Nicholas Lutsey

Dated April 5, 2019

²¹ NHTSA, Compliance and Effects Modeling System: The Volpe Model, Downloads, <https://www.nhtsa.gov/corporate-average-fuel-economy/compliance-and-effects-modeling-system#compliance-and-effects-modeling-system-downloads> (last visited Apr. 5, 2019).

²² California Air Resources Board, Advanced Clean Cars: AB1085 Background Materials (last updated Aug. 12, 2014), https://www.arb.ca.gov/msprog/clean_cars/clean_cars_ab1085/clean_cars_ab1085.htm.

DECLARATION OF DR. NICHOLAS LUTSEY

EXHIBIT A

PEER-REVIEWED JOURNAL ARTICLES

- Wang, H., Lutsey, N. (2014). [Long-term potential to reduce emissions from international shipping by adoption of best energy-efficiency practices.](#) *Transportation Research Record: Journal of the Transportation Research Board.* 2426: 1-10
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- Nicholas, M., Hall, D., Lutsey, N. (2019). [Quantifying the electric vehicle charging infrastructure gap across U.S. markets](#). International Council on Clean Transportation. January.
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- “An international perspective on electric vehicle market development.” Agora Verkehrswende. Berlin, Germany. November 17, 2017.
- “What is driving the U.S. electric vehicle market.” Electric Vehicle Symposium 30. Stuttgart, Germany. October 10, 2017
- “Emerging best practices for electric vehicle charging infrastructure.” Electric Vehicle Symposium 30. Stuttgart, Germany. October 9, 2017

- “What’s driving electric vehicle uptake?” Electric vehicle roadmap 10. Portland, Oregon. June 21, 2017
- “Electric vehicle discussion.” European Parliament. Brussels, Belgium. May 23, 2017.
- “Global ZEV technology and policy trends.” Zero Emission Vehicle Alliance Annual Assembly. Amsterdam, Netherlands. May 19, 2017.
- “Looking ahead: Electric drive.” Health Effects Institute 2017 Annual Conference. Washington, D.C. April 30, 2017.
- “Electric vehicles: Global technology, market, and policy trends.” Naval Postgraduate School Defense Energy Seminar. Monterey, California. August 26, 2016.
- “Emerging best practices to accelerate electric vehicle deployment.” C40 Low Emission Vehicle Network Workshop. Los Angeles, California. June 29, 2016.
- “Global ZEV technology and policy trends.” Zero Emission Vehicle Alliance Annual Assembly. Montréal, Québec. June 23, 2017.
- “Emerging best practices to accelerate electric vehicle deployment.” Institute of Transportation Studies, University of California, Davis Seminar. May 2016
- “Emerging international best practices to promote electric vehicles.” AVERE E-mobility Conference. Amsterdam, Netherlands. April 13, 2016.
- “Transitioning to an electric vehicle fleet.” UN Foundation / Ceres Investment Summit on Climate Risk conference. New York, New York. January 27, 2016
- “Research on available tractor-trailer efficiency technologies.” SAE Government/Industry Meeting. Washington, D.C. January 21, 2016
- “Proposed U.S. heavy-duty standards: Technologies, costs, and global context.” SAE Commercial Vehicle Engineering Congress. Rosemont, Illinois. October 7, 2015.
- “Transition to a global zero-emission vehicle fleet: A collaborative agenda for governments.” International Zero-Emission Vehicle launch event. New York, New York. September 29, 2015.
- “ICCT testimony on US heavy-duty vehicle Phase 2 regulation.” Chicago, Illinois, August 6, 2015
- “Zero-emission vehicle policy, research, target-setting, recommendations.” Zero-emission vehicle collaboration meeting. Oakland, California. May 20, 2015.
- “Tractor-trailer efficiency technology, cost, and payback assessment.” Memphis, Tennessee. FedEx. May 14, 2015.
- “Briefing on ICCT research on electric vehicle policy and deployment” International Energy Agency Implementing Agreement meeting. Gwangju, Republic of Korea. April 30, 2015.
- “Tractor-trailer efficiency technology, cost, and payback assessment.” California Phase 2 GHG April 2015 Symposium. Diamond Bar, California. April 22, 2015.
- “Tracking electric-drive vehicle progress.” Electric drive vehicle strategy session. Atlanta, Georgia. April 15, 2015.
- “Preliminary results on efficiency technology and payback analysis.” Walmart. Bentonville, Arkansas. March 12, 2015.
- “Potential low-carbon fuel supply to the Pacific Coast region of North America.” Calstart Low Carbon Fuel Symposium. Sacramento. February 3, 2015.
- “Advanced Tractor-Trailer Efficiency Technologies: Progress from the U.S. SuperTruck Program.” 5th International Car Training Institute Conference. Troy, Michigan. September 2014.

- “The State of the U.S. Electric Vehicle Market: Webinar” Bloomberg Government. March 13, 2014
- “Prospects for International Harmonization for Heavy-Duty Vehicle Efficiency.” SAE Government/Industry Meeting. Washington, D.C. January 24, 2014.
- “Global lightweight vehicle developments and policy design implications.” Global Fuel Economy Initiative workshop. Beijing, China. June, 2013.
- “Best practices in global low carbon fuel policy.” SAE Fuels, Lubricants, and Aftertreatment Symposium. Long Beach, California. November 19th, 2013
- “Overview on actions to reduce shipping emissions.” 2012 U.S.-Taiwan Sustainability Symposium: Creating Sustainable Cities and Promoting Sustainable Ports in the Asia Pacific Region. Kaohsiung, Taiwan. December 10-11, 2012
- "Technical Assessment in US Greenhouse Gas (GHG) Regulations: Methodology and Key Results." Greenhouse Gas Reduction Technology Workshop. Brussels, Belgium. [February 1, 2012.](#)
- "The Case for Vehicle Efficiency Regulations: Past, Present, and Future of US Standards." 21st Annual UCLA Lake Arrowhead Symposium. Lake Arrowhead, CA. [October 17, 2011.](#)
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- "Technologies and Trends for Reducing Automobile Greenhouse Gas Emissions in the 2025 Timeframe." California Air Resources Board. El Monte, CA. [March 2, 2010.](#)
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- “Technology Progress and Prospects toward Automobile Greenhouse Gas Emission Reductions in the United States.” Proceedings of the 2009 East-West Center and Korean Transport Institute. Honolulu, Hawaii. August 13, 2009.
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- "America’s Bottom-Up Climate Change Mitigation Policy." Transportation Research Board 87th Annual Meeting. Washington, D.C. January 14, 2008.

DECLARATION OF DR. NICHOLAS LUTSEY

EXHIBIT B

Presentation: EPA Review of CAFE Model with “GHG” Settings
Meeting with Office of Management and Budget/OIRA
Dated: 4/16/2018

Source:

E.O. 12866 Review Materials, File: “Email 5 - Email from William Charmley to Chandana
Achanta - June 18, 2018” (June 18, 2018),
<https://www.regulations.gov/document?D=EPA-HQ-OAR-2018-0283-0453>

EPA review of CAFE model with “GHG” settings (08-Mar ver.)

Meeting with Office of Management and Budget/OIRA

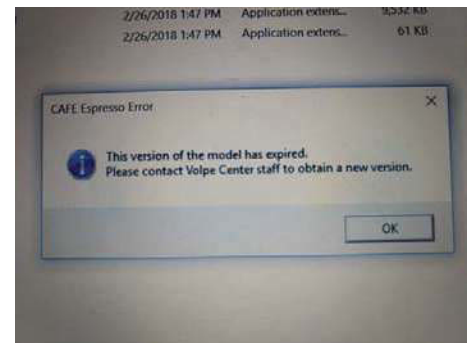
4/16/2018

Agenda

- Overview
- Review of CAFE model Safety Analysis
- Review of CAFE model Realism
- Review of CAFE representation of GHG program
- Summary of CAFE model results 'cost walk'
 - Contributions of the identified issues to large overestimation in program costs
- Other observations
 - Performance
 - Effectiveness
 - Battery costs and sizing
- Appendix: Update on LDV Rebound

Overview (slide 1 of 2)

- EPA began reviewing CAFE model in late January
 - Shared very initial observations with OMB on February 9, raising many significant concerns, and requesting:
 - (1) technology descriptions for a handful of key technologies
 - (2) description of components included in net benefits summary
 - (3) model code
 - EPA has received neither of the requested items
- DOT provided a “GHG” version of the CAFE Model March 8
 - Intent is to properly model the EPA CO₂ program provisions
 - EPA discovered on March 31 model had a built-in “expired” date.
 - EPA requested on April 2 a workable version of the model
 - There has been no response to EPA request from DOT



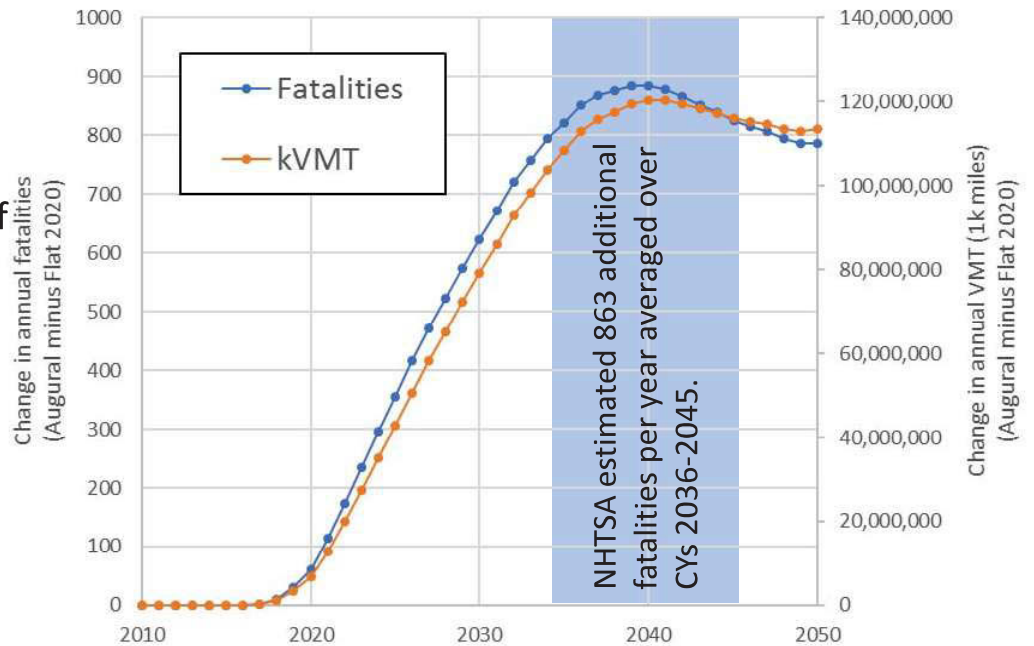
Overview (slide 2 of 2)

- EPA analysis to date shows significant and fundamental flaws in CAFE model (both the CAFE version and the “GHG version”)
 - These flaws make the CAFE model unusable in current form for policy analysis and for assessing the appropriate level of the CAFE or GHG standards
- DOT has provided OMB draft preamble and RIA Chapter assessments for the upcoming CAFE and GHG NPRM
 - The underlying technical basis for the policy decisions and the proposed standards is the CAFE model, which has significant and fundamental flaws that must be addressed before being used for informing policy
 - EPA will not be providing comments on the draft material, as the underlying basis (CAFE model) is flawed, and thus comments are of no value until the technical basis is fixed
- DOT has drafted preamble language in which DOT repeatedly speaks for the EPA Administrator
 - DOT speaks for the EPA Administrator’s views on the appropriate level of the EPA standard, EPA’s interpretation of the Clean Air Act, EPA’s views on what factors are relevant in determining EPA’s program design and the EPA standards
 - EPA will be drafting the EPA Administrator’s views for the upcoming rulemaking, and we will not be starting from the DOT draft text

Review:
CAFE safety
analysis

Relationship between miles traveled and total fatalities

- Total fatalities are highly correlated with total VMT
- CAFE model improperly estimates the VMT impact of the Augural standards (following slides)
- The safety metric of ‘fatalities per mile’¹ is unaffected by anomalies in VMT projection, and is therefore a more reliable metric of safety for this review

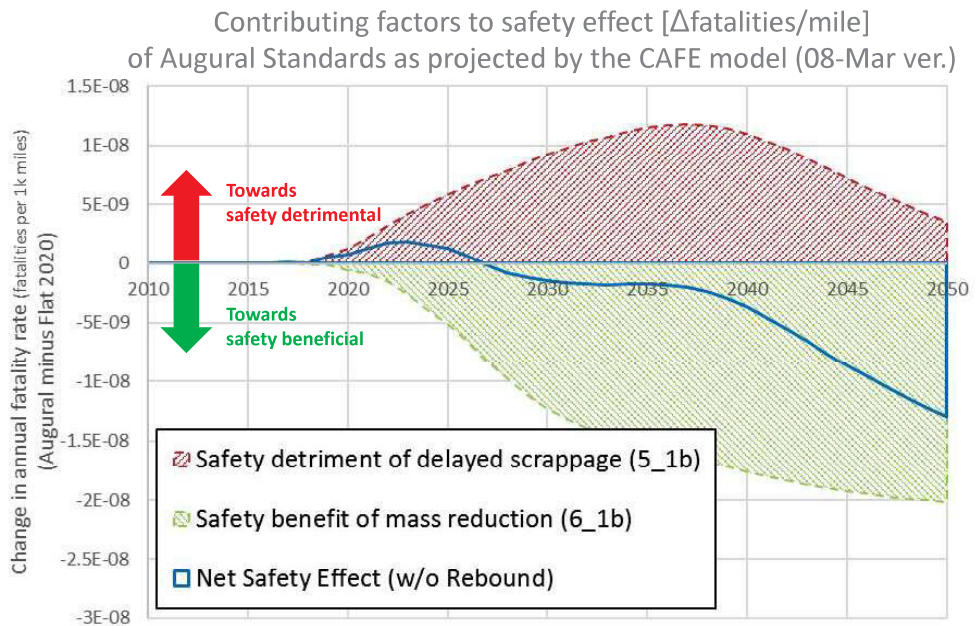


¹ NHTSA has previously used a fatality rate metric when estimating the safety impact of changes in vehicle characteristics. Refer to the June 2016 report cited in the Draft TAR, "Relationships between Fatality Risk, Mass, and Footprint in Model Year 2003-2010 Passenger Cars and LTVs."

Review:
CAFE safety
analysis

Effects of delayed scrappage and mass reduction (excluding rebound)

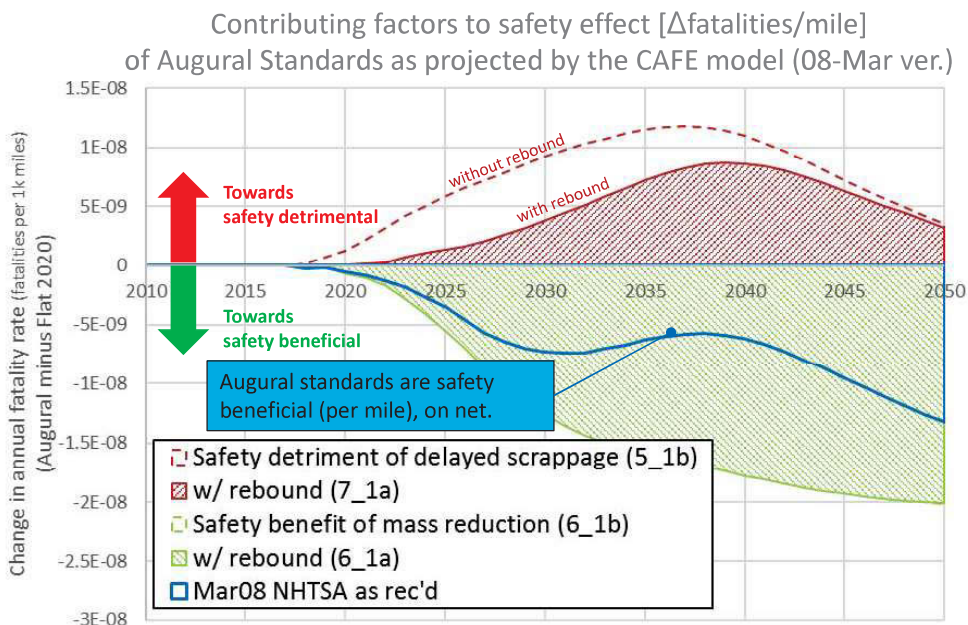
- The augural standards provide an overall safety benefit, relative to flat standards
- Mass reduction provides a safety benefit due to the greater amount of weight removed from larger vehicles (relative to smaller vehicles) and the resulting improvement in crash compatibility
- Any detriment due to delayed scrappage is more than offset by the benefit of mass reduction
- The benefit of mass reduction extends perpetually into the future, while the detriment of delayed scrappage becomes smaller over time



Review:
CAFE safety
analysis

Effects of delayed scrappage and mass reduction (including rebound)

- The use of a 20% rebound value in the CAFE model reduces the safety detriment of delayed scrappage
- As in the case of excluding rebound, the augural standards provide an overall safety benefit, relative to flat standards when rebound is included



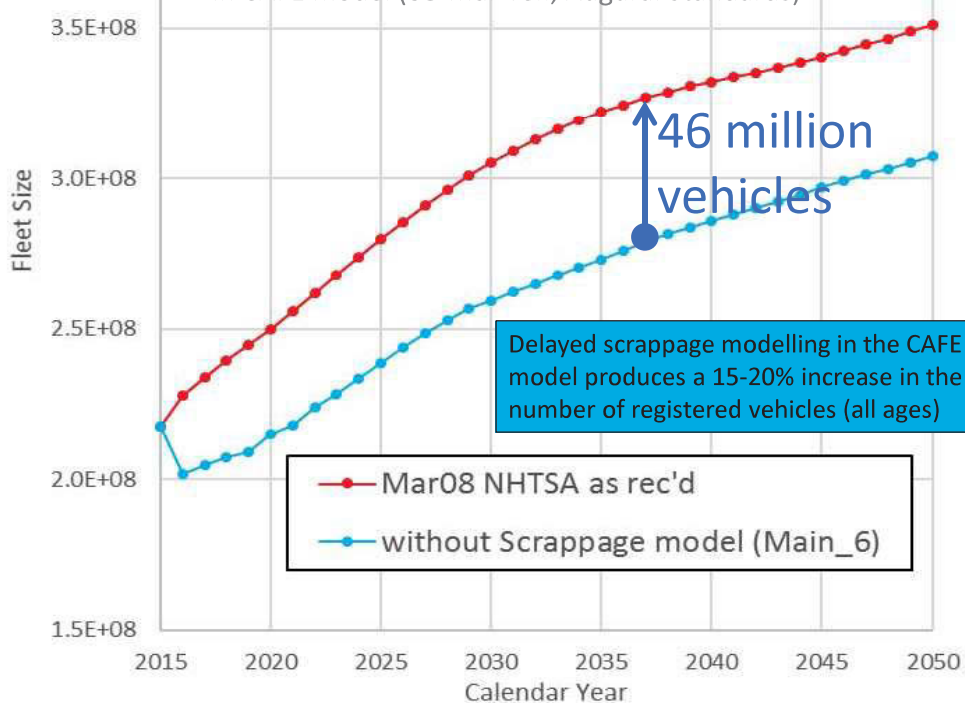
Review:
CAFE model
realism

Realistic fleet size projections

Real-world : The total number of registered vehicles would not change significantly as a result of consumer decisions to retain used vehicles longer instead of purchasing new vehicles.

CAFE model implementation: The use of the scrappage model produces a 15-20% increase in the total fleet size. The 2016 fleet increases by 26 million vehicles, and the 2030 fleet increases by 46 million

Significant increase in the total fleet size due delayed scrappage in CAFE model (08-Mar ver., Augural Standards)



Review:
CAFE model
realism

Realistic travel activity (VMT) projections

Real-world: The total number of vehicle miles travelled (VMT) would not change significantly as a result of consumer decisions to retain used vehicles longer instead of purchasing new vehicles.

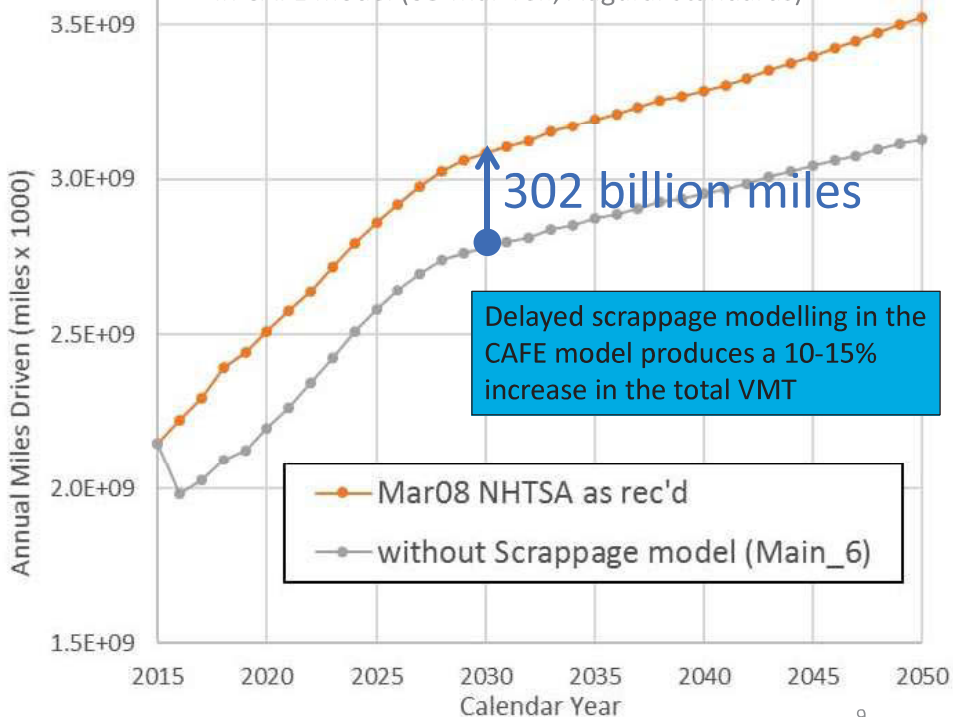
CAFE model implementation: The use of the scrappage model produces a 10-15% increase in total VMT.

The 2016 VMT increases by 239 billion miles, and the 2030 VMT increases by 302 billion miles

Implication of this Error: The unexplained VMT disconnect is clearly wrong, and is driving incorrect fatality estimates¹.

¹Because of the disconnect with the vehicles sales projections (DFS model), the use of the scrappage model causes an inappropriate increase in the fatalities impact of the Augural standards, and an inappropriate underestimation of the fuel savings and emissions benefits.

Significant increase in the total VMT due delayed scrappage in CAFE model (08-Mar ver., Augural Standards)



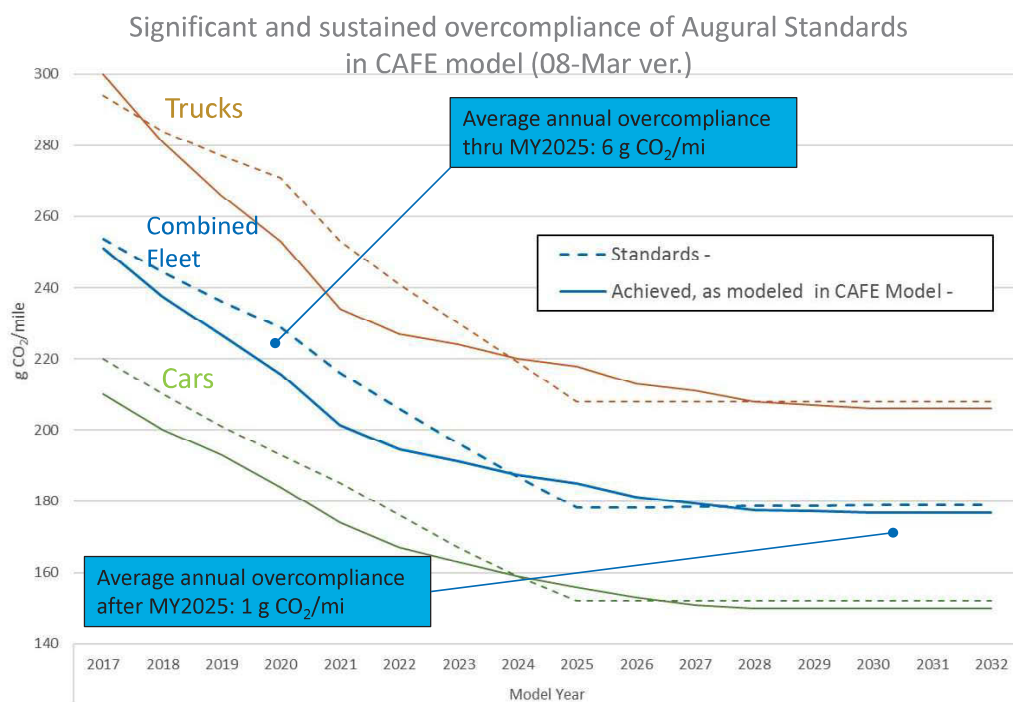
Review:
CAFE model
realism

Manufacturer year-by-year compliance strategy projects

Real-world: Manufacturers will consider future vehicle model plans and compliance strategy when introducing technology, transferring credits from year-to-year as needed and avoiding significant over-compliance, on average.

CAFE model implementation: Technology in excess of what is necessary for compliance is applied in nearly every year, particularly prior to MY2024 when lead time is more limited. This sustained and significant overcompliance projected by the CAFE model implies that the industry will not make use of the large quantity of banked credits, or year-to-year credit transfer provisions.

Implication of this overcompliance: Significant overestimation in industry costs. CAFE model is not properly accounting for banked credits in GHG program, which firms clearly do today.



Note: The 'Achieved' emissions represented in the CAFE model include tailpipe CO₂, AC efficiency and leakage credits, and off-cycle credits. Banked credits are not included in the 'Achieved' value.

Review:
CAFE model
realism

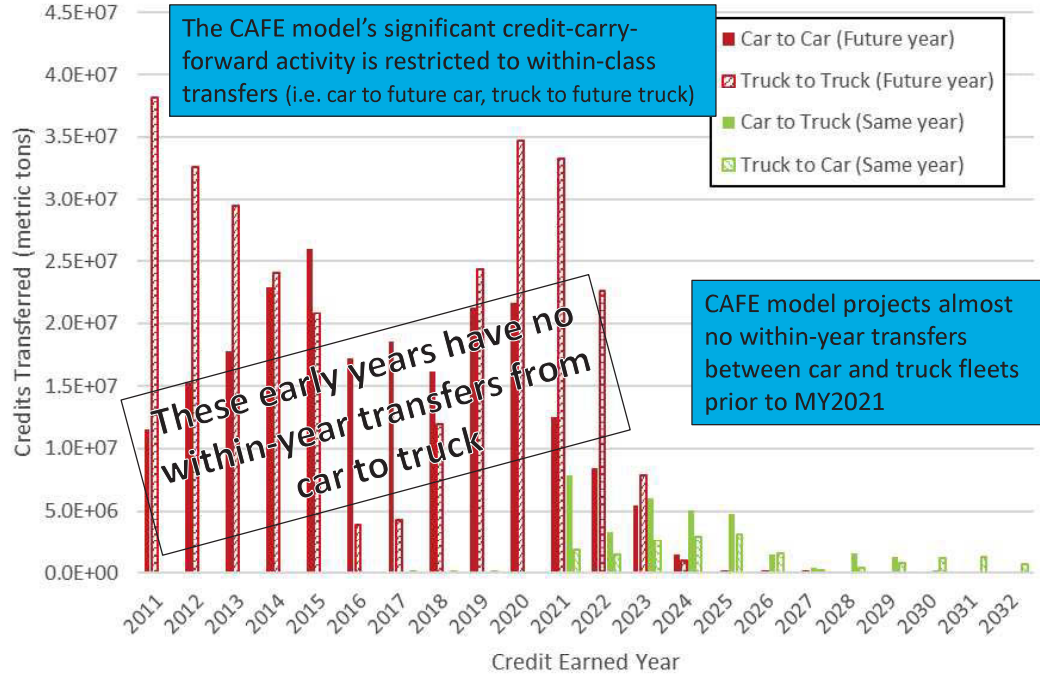
Realistic management of credits by manufacturers

Real-world : Manufacturers will manage their credit banks to even out compliance status given staggered introduction of technology. It is unlikely that manufactures will consistently add excess technology in the earlier years in order to maintain a large credit bank into the future.

CAFE model implementation: Manufacturers are projected to strongly prioritize the carry-forward of credits into future years, relative to within-year transfers between car and truck fleets. The CAFE model projects almost no within-year transfers between car and truck fleets prior to MY2021

Implication of unrealistic credit carry-forward: Overestimation of GHG standards cost. CAFE model not taking advantage of car-truck credit transfer, which firms are clearly doing today

Within-manufacturer transfer of earned credits, Augural Standards in CAFE model (08-Mar ver.)

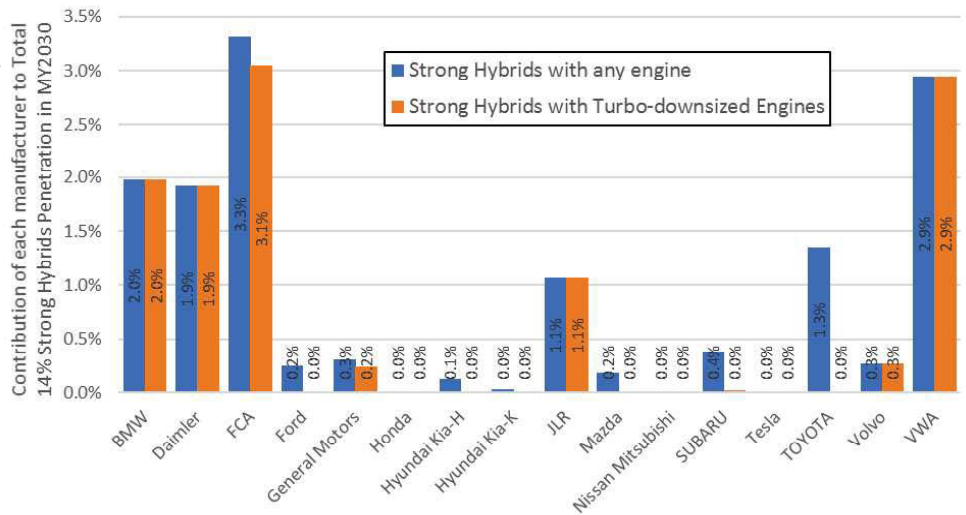


Review:
CAFE model
realism

CAFE Model Does Not Choose Cost-effective Pairing of Engines and Strong Hybridization (1 of 2)

Strong Hybrid Technology Pathway Comparison: Turbo vs. non-Turbo:
Augural Standards in CAFE model (08-Mar ver.)

CAFE model implementation: Over 80% of the strong hybrid packages applied in the Augural case include turbo-downsized engines (11.5% of 14% fleet-wide strong-hybrid penetration)



Review:
CAFE model
realism

CAFE Model Does Not Choose Cost-effective Pairing of Engines and Strong Hybridization (2 of 2)

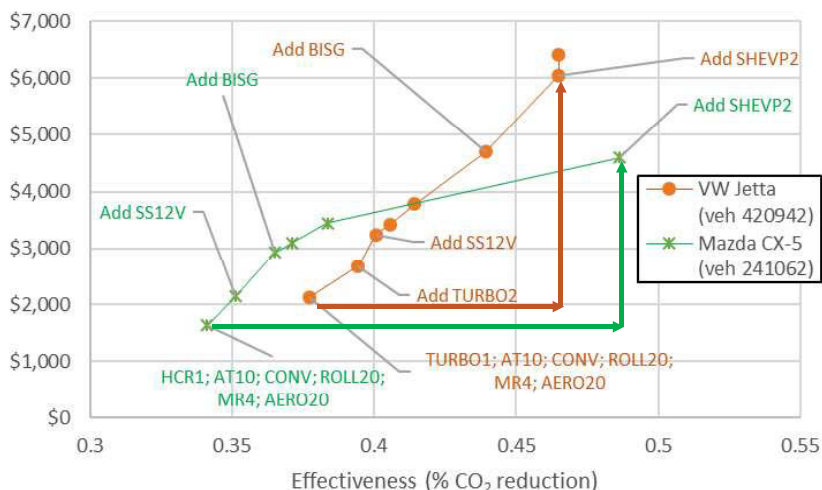
Real-world: The effectiveness benefits of strong hybridization (P2HEV and PSHEV) is dependent on the base engine technology to which the technology is applied. In typical applications, manufacturers will pair strong hybridization with efficient, but low cost Atkinson cycle engines.

CAFE model implementation: Due to the CAFE model's pre-defined technology pathways, strong hybridization is applied almost exclusively to turbocharged downsized engines, resulting in strong hybrid packages that are significantly higher costs and less effective than the vast majority of real-world implementations.

Implication of strict technology pathways: Overestimation of GHG standards cost. CAFE model is forcing combinations of technologies that are highly cost-ineffective.

Strong Hybrid Technology Pathway Comparison: Turbo vs. non-Turbo: Augural Standards in CAFE model (08-Mar ver.)

- Strong Hybrid applied to Turbo engine: \$3,900 and 8% CO₂ reduction
- Strong Hybrid applied to HCR1 Atkinson cycle engine: \$3,000 and 15% CO₂ reduction



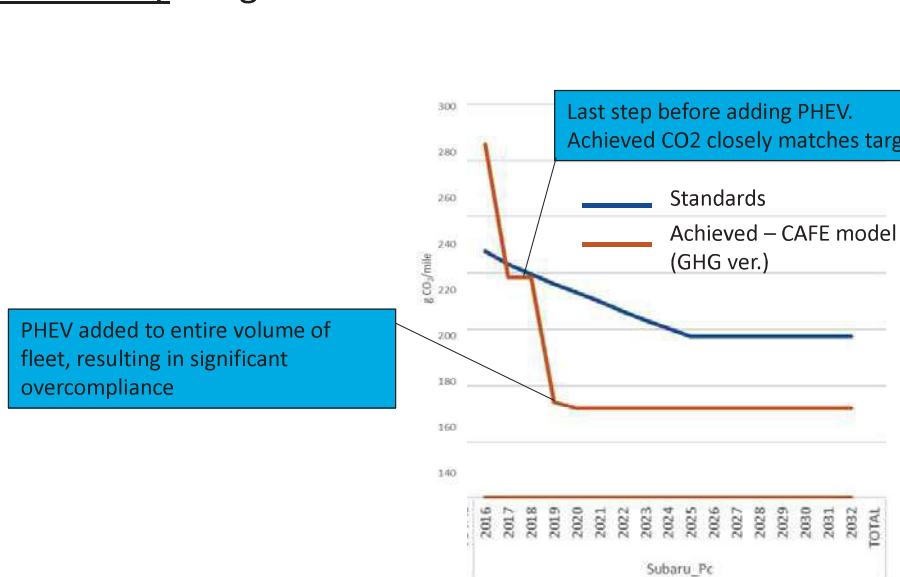
Review:
CAFE model
realism

Addition of plug-in electrification in reasonable volumes

Real-world : Plug-in vehicles (PEV's) provide significant compliance benefits due to low or zero emissions and multiplier incentives. Mainstream manufacturers will likely continue adopt PEV's in a strategic fashion, without drastically exceeding the volumes needed for compliance

CAFE model implementation: PEV technology is applied to platforms in 'all-or-nothing' manner, resulting in an inability to track the standards closely, and producing overcompliance levels ranging from moderate to very high.

CASE Study: Single vehicle manufacturer

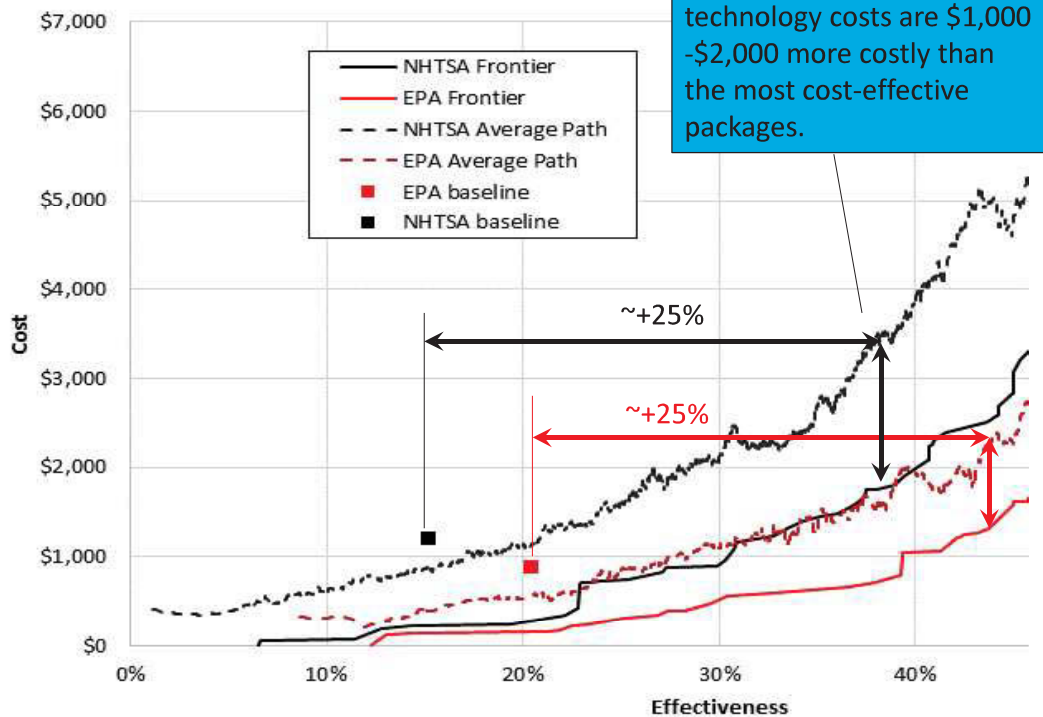


Review:
CAFE model
realism

Manufacturer consideration of technology package cost-effectiveness

Real-world: Manufacturers will apply technology packages that are within a reasonable cost range of the most cost-effective technologies (e.g. well within \$2,000)

CAFE model implementation: Using the NHTSA inputs, as provided, manufacturers are projected to apply, on average, technology packages that are \$1,000-\$2,000 more costly than the most cost-effective packages.

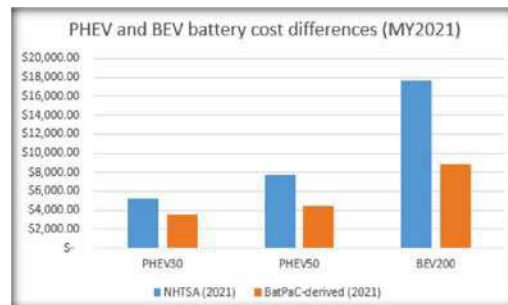
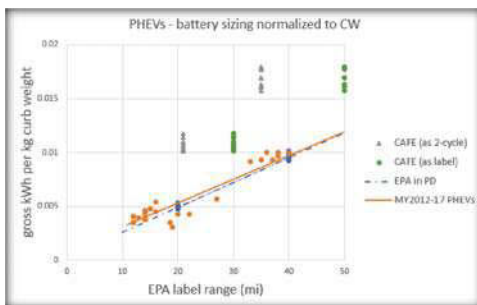
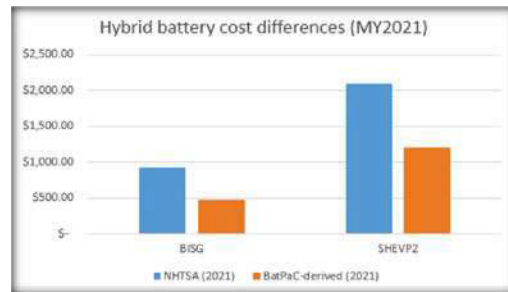
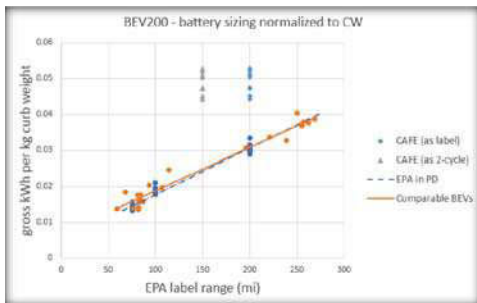


Average CAFE model technology costs are \$1,000-\$2,000 more costly than the most cost-effective packages.

Review:
CAFE model
realism

Battery Costs

- The cost of batteries for hybrid and plug-in vehicles is in most cases significantly higher than expected based on the most recent projections derived from DOE's BatPaC model and battery sizes are substantially larger than observed in the current LD fleet.



Review:
CAFE model
realism

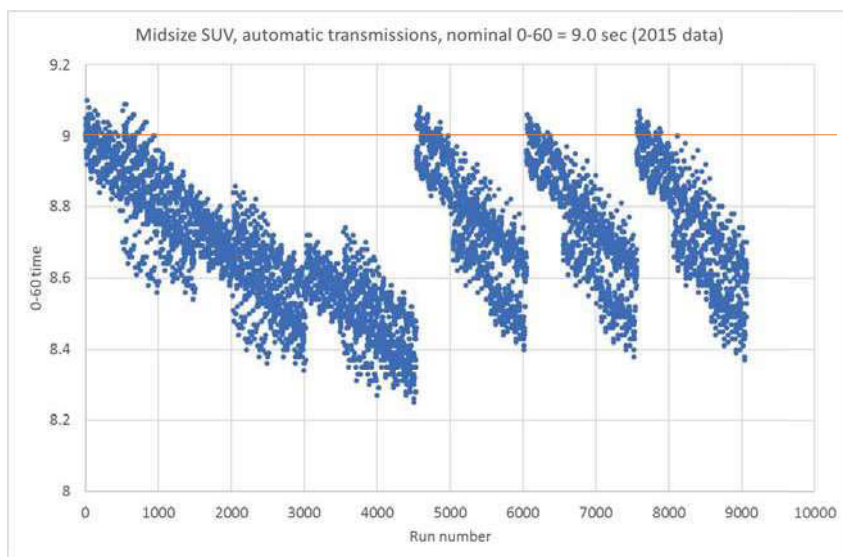
CAFE Model Projects Unquantified and Unmonetized Increase in Vehicle Performance

In the modeling for CAFE, engines are re-sized in two circumstances:

- When constructing an initial conventional or hybrid package.
- When applying over 7.5% mass reduction.

However, applying lower levels of mass reduction, advanced transmissions, or other load reduction will increase acceleration performance.

This additional benefit is not accounted for in the CAFE model.



Target 0-60 time for this class is 9.0 seconds. Actual DOT Autonomie simulations show 0-60 accelerations much better than the target for many technology packages.

Review: CAFE model
Representation of
GHG Program

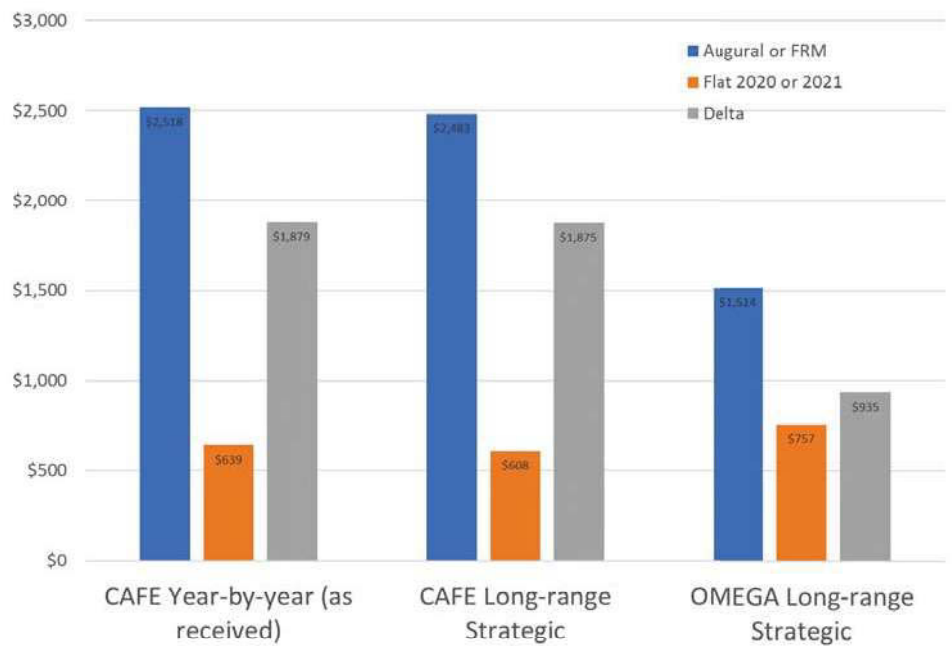
Summary of the representation of GHG Program elements in the CAFE model

Program element	CAFE model implementation issues
BEV and PHEV Advanced Vehicle Technology Multipliers	CAFE model only adjusts the fleet average emissions to account for the multiplier values. For proper accounting of credits, the multipliers must also be incorporated into the GHG target.
Accounting for plug-in vehicle (PEV) upstream emissions	CAFE model does not have any inputs or apparent mechanism for accounting for the upstream emissions of PEVs, as required by the EPA regulations
A/C credits (efficiency and leakage)	The input files, as received from NHTSA, assume that all manufacturers earn a constant credit from AC efficiency and leakage in all years. However, the inputs for the standard footprint curves are adjusted for AC efficiency and leakage that increases over time. As a result, the standards defined in the CAFE model, as received, are less stringent than the actual standards.
Unlimited transfer is allowed within a manufacturer between car and truck fleets	CAFE model does not realistically account for car-truck credit transfers within a manufacturer (as described in earlier slide.) This likely contributes to the model's overall overcompliance, and the associated increase in costs.
Off-cycle Emission Credit caps	CAFE model inappropriately applies the credit cap (10g/mi) separately to each manufacturer's car and truck fleets. The GHG regulations specify that the cap is applied to a manufacturer's combined fleet.

CAFE model results 'walk'

Year-by-year vs. Long-range Strategic Modelling

- Specification of redesign cycles and year-by-year compliance considerations have a minimal effect on the projected 2025 compliance costs in the CAFE model.
- Differences between NHTSA and EPA cost projections are the result of modeling inputs, constraints and anomalies within the CAFE model (see other EPA slides).



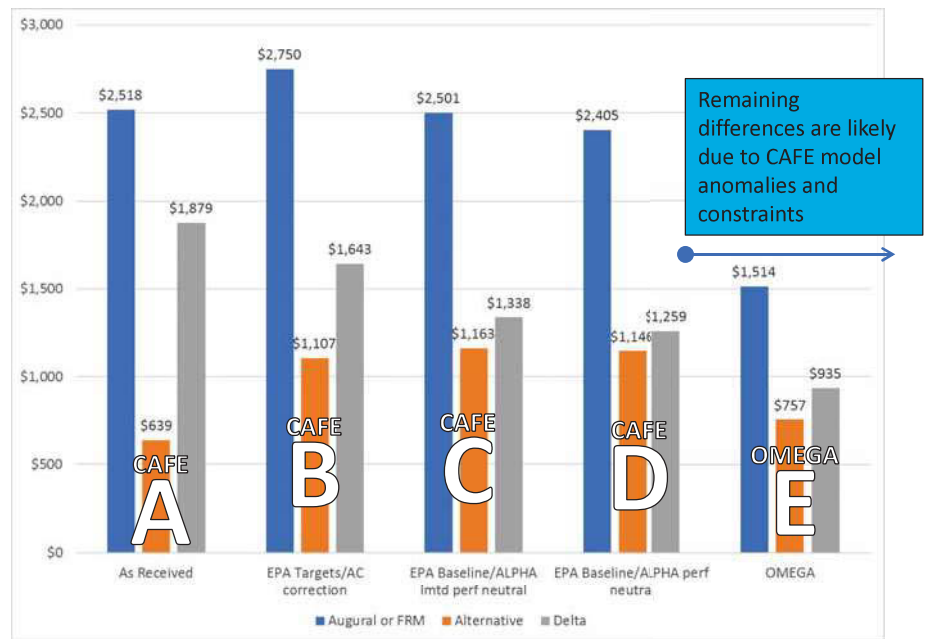
CAFE model results 'walk'

CAFE model runs with EPA settings and inputs

Run A: CAFE (GHG ver.)

"As received" from NHTSA which uses:

- Augural standards as the reference case
- Flat 2020 forward as the alternative case
- NHTSA/Volpe effort at characterizing the A/C provisions of the GHG standards
- Engine effectiveness estimates are compared against targets incorporating A/C efficiency expectations
- A/C leakage values not properly reflected

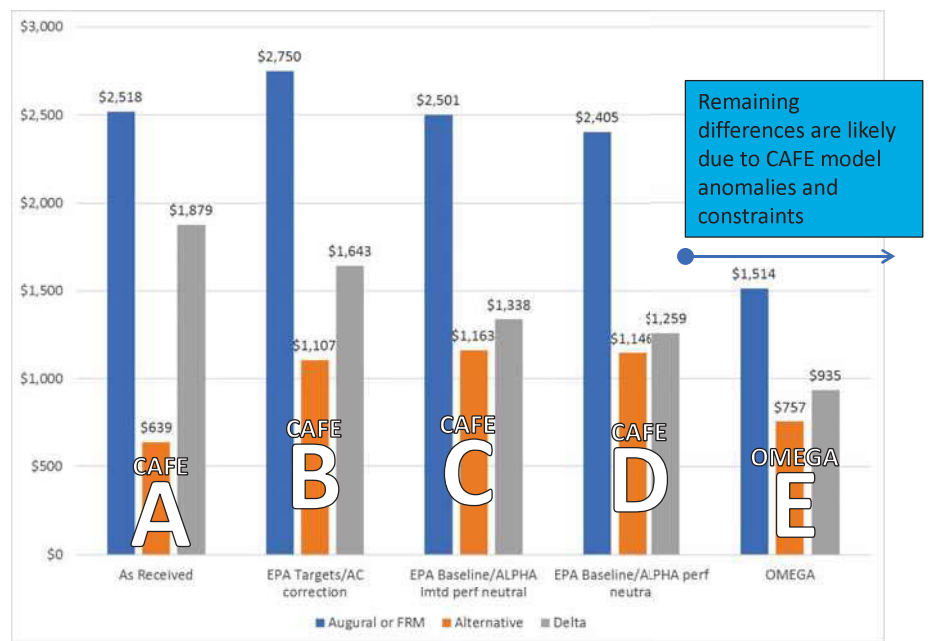


CAFE model results 'walk'

CAFE model runs with EPA settings and inputs

Run B: CAFE (GHG ver.)

- EPA's 2022-2025 FRM targets as the reference case
- EPA's 2021 and later FRM targets as the alternative case
- EPA characterization of the A/C provisions of the GHG standards
- Engine effectiveness estimates are appropriately applied to 2-cycle targets that ignore influence of A/C efficiency expectations
- A/C leakage values corrected

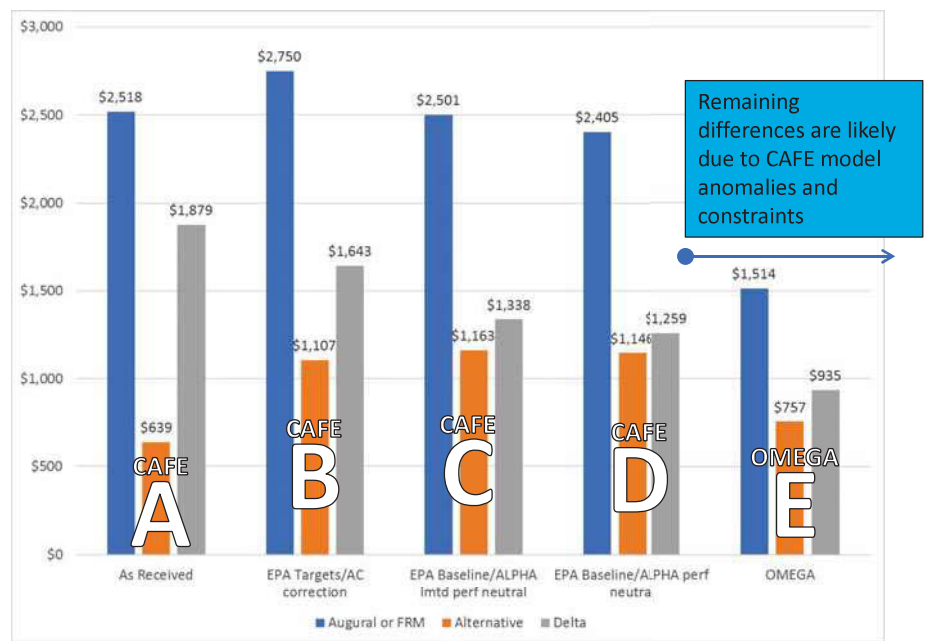


CAFE model results 'walk'

CAFE model runs with EPA settings and inputs

Run C: CAFE (GHG ver.)

- Use of EPA's baseline fleet which incorporates a higher level of technology
- Use of EPA's cost input estimates including more recent BatPaC results
- Use of EPA's ALPHA modeling of effectiveness, but with NHTSA's engine resizing approach which does not maintain performance neutrality

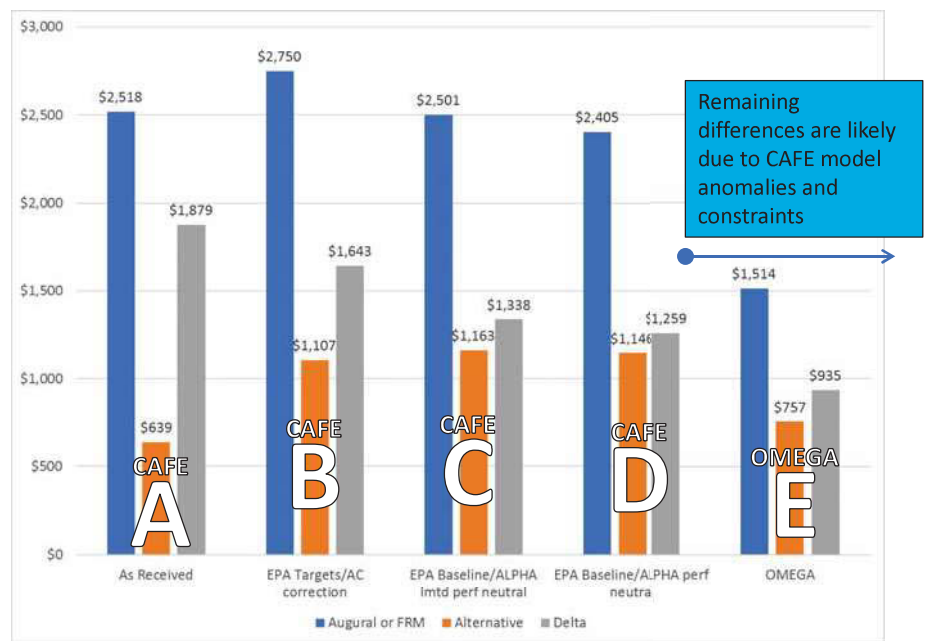


CAFE model results 'walk'

CAFE model runs with EPA settings and inputs

Run D: CAFE (GHG ver.)

- Use of EPA's baseline fleet as in the "C" set
- Use of EPA's cost inputs as in the "C" set
- Use of EPA's ALPHA modeling of effectiveness, maintaining performance neutrality

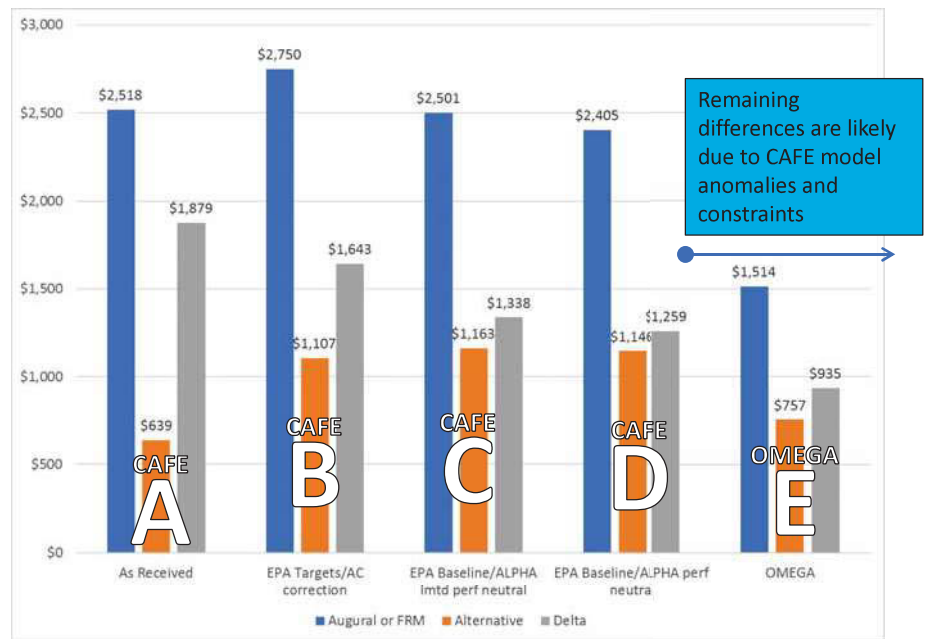


CAFE model results 'walk'

CAFE model runs with EPA settings and inputs

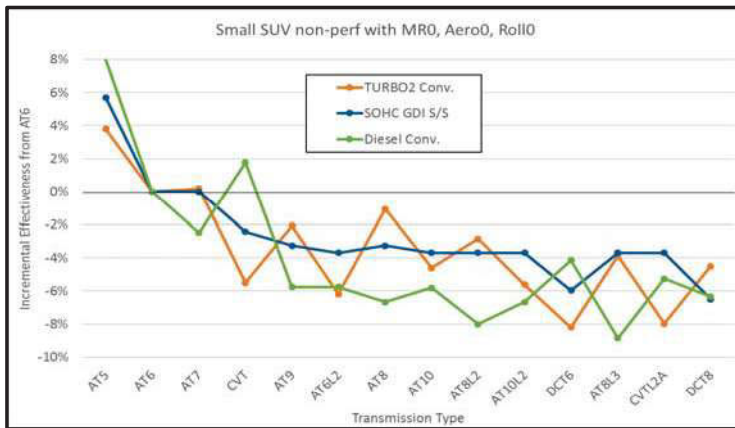
Run E: CAFE (GHG ver.)

- Full use of ALPHA and OMEGA



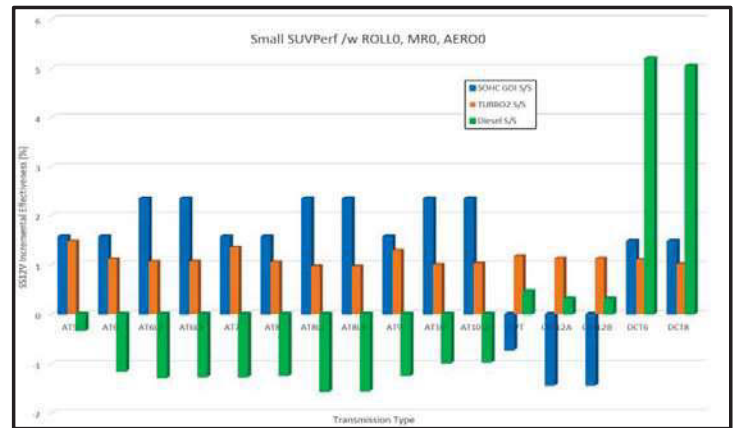
Technology Effectiveness

- EPA has also identified specific technology effectiveness observations that are inconsistent with expected performance.(examples provided below)



Observations of Transmission Effectiveness

- Consistent values could indicate lack of resolution in modeling (single values being applied broadly).
- Additional technology does not follow a logical progression of improvement.



Observations of Stop/Start Effectiveness

- Effectiveness of stop/start should be consistent independent of the transmission (for a given engine).
- Stop/start can never produce a negative effectiveness.

CAFE Model Observations

From EPA’s March 1st summary status report of CAFE model review:

The use of EPA input values in the CAFE model which update and/or correct the anomalous inputs used in the NHTSA-reported runs from January 22 has a significant impact on several key output results:

Relative to the Augural Standards, technology cost savings of Alternative standards are reduced and fatalities increase.

Source	As summarized by NHTSA		As run by EPA (as received)		EPA-updated inputs w/ DFS and Scrapage models (44)		EPA-updated inputs w/o DFS and Scrapage models (44)	
	2017-2025 (current standards)	2021-2026	2017-2025 (current standards)	2021-2026	2022-2025	2022-2025	2022-2025	2022-2025
Model Years	2017-2025 (current standards)	2021-2026	2017-2025 (current standards)	2021-2026	2022-2025	2022-2025	2022-2025	2022-2025
Annual Rate of Increase in Stringency	No Action	0.0%/Year PC 0.0%/Year LT	No Action	0.0%/Year PC 0.0%/Year LT	No Action	0.0%/Year PC 0.0%/Year LT	No Action	0.0%/Year PC 0.0%/Year LT
Price Increase due to New CAFE Standards (\$/veh) MY2030	baseline	-\$1,879	baseline	-\$1,879	baseline	-\$1,236	baseline	-\$1,259
Weight reduction	19% (not including powertrain)	12% (not including powertrain)	19% (not including powertrain)	12% (not including powertrain)	14% (including powertrain)	11% (including powertrain)	14% (including powertrain)	11% (including powertrain)
HCR	26%	12%	26%	12%	36%	26%	32%	26%
Turbo-downsized	62%	46%	62%	46%	33%	33%	36%	36%
Dynamic Deac (DeacFC)	7%	0%	7%	0%	0%	0%	0%	0%
Diesel	1%	1%	1%	1%	1%	1%	1%	1%
Advanced transmissions	82%	93%	82%	88%	59%	76%	64%	79%
Stop-Start (12V)	10%	13%	10%	13%	23%	11%	14%	11%
MHEV48V	41%	2%	41%	2%	23%	9%	33%	13%
Strong HEV	14%	2%	14%	2%	17%	7%	14%	7%
Sum of mild and strong HEV	55%	5%	55%	5%	40%	16%	47%	19%
Sum of PEVs	1%	1%	1%	1%	13%	5%	14%	6%
Average Annual Fatalities CY 2036-2045 without rebound	baseline	-150	baseline	-150	baseline	-156	baseline	+60
Average Annual Fatalities per Billion Miles CY 2036-2045 without rebound		not reported	baseline	+0.004	baseline	+0.016	baseline	+0.021
Average Annual Fatalities CY 2036-2045 with rebound		-863	baseline	-863	baseline	-911	baseline	-649
Average Annual Fatalities per Billion Miles CY 2036-2045 with rebound		not reported	baseline	+0.007	baseline	+0.017	baseline	+0.023

UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK

NATURAL RESOURCES DEFENSE COUNCIL
and ENVIRONMENTAL DEFENSE FUND,

Plaintiffs,

-v-

UNITED STATES ENVIRONMENTAL
PROTECTION AGENCY,

Defendant.

18 Civ. 11227 (PKC) (DCF)

**MEMORANDUM OF LAW IN SUPPORT OF
EPA'S CROSS-MOTION FOR SUMMARY JUDGMENT AND
IN OPPOSITION TO PLAINTIFFS' MOTION FOR SUMMARY JUDGMENT**

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Defendant the Environmental Protection Agency (“EPA”), by its attorney, Geoffrey S. Berman, United States Attorney for the Southern District of New York, respectfully submits this memorandum of law in support of its cross-motion for summary judgment pursuant to Rule 56 of the Federal Rules of Civil Procedure, and in opposition to the motion to expedite and for summary judgment of Plaintiffs Natural Resources Defense Council and Environmental Defense Fund (together, “Plaintiffs”) in this case under the Freedom of Information Act (“FOIA”).

PRELIMINARY STATEMENT

The Court should uphold EPA’s withholding of a nonfinal version of the Optimization Model for reducing Emissions of Greenhouse gases from Automobiles, or OMEGA, under the deliberative process privilege. Plaintiffs’ FOIA request sought updated versions of the core model, along with input data and other data processors used in connection with OMEGA. EPA fully released the latest set of input data and data processors compatible with the current version of the model, but withheld the current draft of the core OMEGA model, version 1.4.59.

The sole issue before the Court is EPA’s withholding of the most recent interim draft version of the core OMEGA model pursuant to the deliberative process privilege under FOIA exemption 5, 5 U.S.C. § 552(b)(5). Because that withholding was appropriate, the Court should grant summary judgment to EPA. First, the latest draft of the core model is predecisional. EPA has released versions of the OMEGA model in the past, but it has only done so when a specific version of OMEGA was in fact used by EPA as the basis for agency rulemaking—and thus at a point when the relevant core model was “finalized” for purposes of a specific agency decision. The current draft, version 1.4.59, has not been used as the basis for such an agency final decision, though EPA may use the core model to inform rulemakings on vehicle emissions in the future. The model thus reflects the tentative views of program staff rather than the views of the agency itself. Therefore, the current draft of the core model is nonfinal and predecisional.

Second, the draft core OMEGA model is deliberative. The current draft was created to assist EPA in its deliberative process concerning forthcoming iterations of the OMEGA model itself, as well as for its broader deliberations concerning how best to assess greenhouse gas emissions standards in future agency rulemakings. It is well established that factual information, including data and scientific modeling, may be protected by the deliberative process privilege when its release would reveal the agency's internal deliberations, as release of the current OMEGA core model draft would here. Because the current interim version of the core model reflects the give-and-take of EPA's consultative process, it is protected by the deliberative process privilege. EPA's withholding of the model should thus be upheld.

Finally, Plaintiffs have not demonstrated good cause to expedite this action and do not qualify for expedited treatment under FOIA. Accordingly, the Court should grant EPA's motion for summary judgment and deny Plaintiffs' motion.

BACKGROUND¹

A. The OMEGA Model

The OMEGA model is a computer model that contains a series of algorithms designed to evaluate the relative cost and effectiveness of available technologies and apply them to a defined vehicle fleet to help facilitate the analysis of the costs and benefits of reducing greenhouse gas emissions. Declaration of William L. Wehrum ("Wehrum Decl.") ¶¶ 5-6; Declaration of William Charmley ("Charmley Decl.") ¶¶ 8-9. In the past, EPA has publicly released the latest

¹ Pursuant to the usual practice in this district in FOIA cases, EPA has not submitted a counterstatement to Plaintiffs' Local Rule 56.1 statement, Dkt. No. 45. *See, e.g., N.Y. Times Co. v. DOJ*, 872 F. Supp. 2d 309, 314 (S.D.N.Y. 2012). In following the practice of not submitting a Rule 56.1 statement or responding to Plaintiffs' statement, EPA does not admit the accuracy or the materiality of any purported fact asserted by Plaintiffs in their Rule 56.1 statement. *See NAACP Legal Def. & Educ. Fund, Inc. v. HUD*, No. 07 Civ. 3378 (GEL), 2007 WL 4233008, at *1 n.1 (S.D.N.Y. Nov. 30, 2007). EPA reserves the right to respond to Plaintiffs' Rule 56.1 statement should the Court deem a response appropriate in this action.

updated version of the source code for the OMEGA model and other model components only when the agency formally relied upon it in its analysis of a regulatory action such as a proposed or final rule. Wehrum Decl. ¶ 7; Charmley Decl. ¶ 15.

EPA has publicly released five versions of the OMEGA model since its first iteration, each of which corresponded to a particular regulatory action. Wehrum Decl. ¶ 7. EPA first released a version of the OMEGA model in October of 2009 to support a joint EPA-National Highway Traffic Safety Administration (“NHTSA”) rule governing light-duty vehicle greenhouse gas emissions standards for model years 2012-2016. *Id.* ¶ 10; *see* Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards, 75 Fed. Reg. 25,324 (May 7, 2010) (final rule); 74 Fed. Reg. 49,454 (Sept. 28, 2009) (proposed rule).

The OMEGA model has grown and developed since its inception. Wehrum Decl. ¶ 11. In addition to the monthly or even weekly updates to the OMEGA model by the Office of Transportation and Air Quality staff who work with it closely, upper-level EPA decisionmakers may work with technical staff on a longer timeline to make more substantive analytical changes to the core OMEGA model, giving it further functionality to allow EPA’s policy decisions to be as well-informed as possible. *Id.*

The regulatory development process and the process of making upgrades to the OMEGA model have traditionally proceeded in parallel. *Id.* ¶ 12. As a regulation develops, EPA’s high-level policymakers may realize that they need a different or more substantial type of analysis in a certain area to determine the available policy options that are supported by a robust technical record. *Id.* The OMEGA model only becomes final and appropriate for public release, and has only been publicly released in the past, when the regulatory development process has become similarly final. *Id.* ¶ 13. Release of an updated draft version of the OMEGA model before that

point would reveal whether or not substantive analytical changes have been made or explored in the current version of the core OMEGA model, and thus would reveal the agency's deliberative process in developing policy in this area. *Id.* ¶¶ 13-14. The OMEGA model has been updated by EPA program staff in various ways since its last public release in 2016. Charmley Decl. ¶ 16.

B. EPA's Proposed Safer Affordable Fuel Efficient (SAFE) Vehicles Rule for Model Years 2021-2026

On August 24, 2018, EPA and NHTSA jointly proposed the Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021-2026 Passenger Cars and Light Trucks, 83 Fed. Reg. 42,986 (proposed Aug. 24, 2018) (hereinafter "SAFE Vehicles Rule"); *see* Wehrum Decl. ¶ 3. If finalized, that rule would amend certain existing Corporate Average Fuel Economy ("CAFE") and tailpipe carbon dioxide emissions standards for passenger cars and light trucks and establish new standards, all covering model years 2021 through 2026. *See id.* In their analysis, "the agencies . . . determined it is reasonable and appropriate" to use the U.S. Department of Transportation's CAFE model for analysis of regulatory alternatives for the SAFE Vehicles Rule. SAFE Vehicles Rule, 83 Fed. Reg. at 43,000; *see* Wehrum Decl. ¶ 4. Because EPA and NHTSA decided to use the CAFE model, EPA did not rely on the OMEGA model in the development of the SAFE Vehicles Rule. Wehrum Decl. ¶ 8; Charmley Decl. ¶¶ 17-21.² Therefore, consistent with prior practice, EPA did not release an updated version of the OMEGA model at the time the SAFE Vehicles Rule was proposed, nor has it done so since then. Wehrum Decl. ¶ 8. However, EPA may use the OMEGA model to inform rulemakings relating to vehicle emissions in the future. *Id.* ¶ 9.

² EPA "briefly used the results from an interim version of the OMEGA model (v.1.4.59)" as part of an interagency review process for the SAFE Vehicles Rule, but "did not actually rely on the OMEGA model for analysis or otherwise in the rulemaking process." Charmley Decl. ¶ 19.

C. Procedural History

Plaintiffs submitted a FOIA request to EPA in August 2018, seeking a variety of records related to the OMEGA model. *See* Charmley Decl. ¶¶ 5-6 & Ex. A (“FOIA Request”). Plaintiffs filed this action on December 3, 2018. Dkt. No. 1. On December 28, 2018, before EPA’s answer was due, Plaintiffs filed a motion purporting to seek the entry of partial summary judgment and to expedite EPA’s response to a “priority” subset of the FOIA Request. Dkt. Nos. 12-15. EPA opposed Plaintiffs’ motion to expedite in February 2019, Dkt. No. 24, after a stay of the case due to a lapse in appropriations to the Department of Justice, *see* Dkt. Nos. 10, 19. In its response, EPA noted that it planned to respond to the “priority” portion of Plaintiffs’ FOIA Request by March 4, 2019—before the date on which Plaintiffs’ motion requested that the Court order a response as to the same records. *See* Dkt. Nos. 23, 24.

The Court took no action on Plaintiffs’ motion to expedite. EPA made a partial response on March 4, 2019, by producing input files for OMEGA version 1.4.59, and withholding the latest version of the core OMEGA model under the deliberative process privilege. *See* Charmley Decl. ¶¶ 10, 22 & Ex. B (EPA letter dated Mar. 4, 2019). After EPA’s production of records, Plaintiffs withdrew their motion to expedite and unilaterally narrowed their request to include only “the current full version of EPA’s OMEGA model and the files necessary to fully utilize it.” Dkt. No. 33 (Plaintiffs’ letter dated Mar. 13, 2019). On March 29, 2019, after conferral, the parties agreed that only specified files compatible with version 1.4.59 of the OMEGA model remain at issue in the action, pursuant to Plaintiffs’ narrowed FOIA request. Dkt. No. 37 (Joint Status Report). EPA responded to the remaining portions of the request on April 1, 2019, and released in full all “OMEGA pre-processors” and “post-processors,” including the OMEGA “Machine” tool. Charmley Decl. ¶¶ 10, 23-24 & Ex. C (EPA letter dated Apr. 1, 2019).

EPA and Plaintiffs now cross-move for summary judgment concerning the propriety of EPA's withholding of the latest draft version of the core OMEGA model—its sole withholding in response to Plaintiffs' narrowed request.³

ARGUMENT

FOIA “expresses a public policy in favor of disclosure so that the public might see what activities federal agencies are engaged in.” *A. Michael's Piano, Inc. v. FTC*, 18 F.3d 138, 143 (2d Cir. 1994). At the same time, FOIA is intended to strike “a workable balance between the right of the public to know and the need of the Government to keep information in confidence.” *John Doe Agency v. John Doe Corp.*, 493 U.S. 146, 152 (1989). Thus, under FOIA, an agency must disclose those responsive records “in its possession unless they fall under one of nine enumerated and exclusive exemptions.” *N.Y. Times v. DOJ*, 101 F. Supp. 3d 310, 317 (S.D.N.Y. 2015); *see also* 5 U.S.C. § 552(a)-(b). The exemptions to disclosure under FOIA “reflect Congress' recognition that releasing certain records might prejudice legitimate private or governmental interests.” *A. Michael's Piano*, 18 F.3d at 143.

“Summary judgment is the procedural vehicle by which most FOIA actions are resolved.” *Nat. Res. Def. Council, Inc. v. U.S. Dep't of Interior*, 73 F. Supp. 3d 350, 355 (S.D.N.Y. 2014) (quotation marks omitted). Under Rule 56, summary judgment is warranted when, viewing the evidence in the light most favorable to the nonmovant, the Court determines that there is no genuine dispute as to any material fact and the movant is entitled to a judgment as a matter of law. Fed. R. Civ. P. 56(a). The moving party bears the burden of showing that it is entitled to summary judgment. *See Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 256 (1986). The nonmoving party, however, may not rely solely on “conclusory allegations or

³ In their motion, Plaintiffs do not challenge the adequacy of EPA's search for records responsive to their narrowed request, which is thus not an issue before the Court.

unsubstantiated speculation” to defeat a motion for summary judgment. *Scotto v. Almenas*, 143 F.3d 105, 114 (2d Cir. 1998).

“In order to prevail on a motion for summary judgment in a FOIA case, the defending agency has the burden of showing that its search was adequate and that any withheld documents fall within an exemption to the FOIA.” *Carney v. DOJ*, 19 F.3d 807, 812 (2d Cir. 1994).

Summary judgment as to the applicability of a FOIA exemption is “warranted on the basis of agency affidavits when the affidavits describe the justifications for nondisclosure with reasonably specific detail, demonstrate that the information withheld logically falls within the claimed exemption, and are not controverted by either contrary evidence in the record nor by evidence of agency bad faith.” *Wilner v. NSA*, 592 F.3d 60, 73 (2d Cir. 2009) (quotation marks omitted). “Affidavits submitted by an agency are accorded a presumption of good faith,” and a court may award summary judgment if the affidavits provided by the agency are “adequate on their face.” *Carney*, 19 F.3d at 812 (quotation marks omitted). “[A]n agency’s justification for invoking a FOIA exemption is sufficient if it appears logical or plausible.” *Wilner*, 592 F.3d at 73 (quotation marks omitted).

I. EPA PROPERLY WITHHELD THE LATEST DRAFT VERSION OF THE CORE OMEGA MODEL PURSUANT TO THE DELIBERATIVE PROCESS PRIVILEGE UNDER FOIA EXEMPTION 5

EPA’s sole withholding here was of its latest interim version of the core OMEGA model. The withheld version of the model, version 1.4.59, is a predecisional draft that was properly withheld pursuant to the deliberative process privilege under FOIA’s exemption 5.

A. Legal Standards

FOIA’s exemption 5 excludes from disclosure “inter-agency or intra-agency memorandums or letters that would not be available by law to a party . . . in litigation with the agency.” 5 U.S.C. § 552(b)(5). That language “incorporate[s] . . . all the normal civil discovery

privileges.” *Hopkins v. HUD*, 929 F.2d 81, 84 (2d Cir. 1991).

Exemption 5 encompasses the “‘deliberative process’ or ‘executive’ privilege, which protects the decisionmaking processes of the executive branch in order to safeguard the quality and integrity of governmental decisions.” *Id.* “The deliberative process privilege rests on the obvious realization that officials will not communicate candidly among themselves if each remark is a potential item of discovery and front page news.” *Dep’t of Interior v. Klamath Water Users Protective Ass’n*, 532 U.S. 1, 8-9 (2001). Thus, the deliberative process privilege “protect[s] open and frank discussion” among government decisionmakers by protecting their decisionmaking process. *Id.* at 9. “Congress adopted Exemption 5 because it recognized that the quality of administrative decision-making would be seriously undermined if agencies were forced to operate in a fishbowl.” *Brennan Ctr. for Justice v. DOJ*, 697 F.3d 184, 194 (2d Cir. 2012) (quoting *Wolfe v. HHS*, 839 F.2d 768, 773 (D.C. Cir. 1988) (en banc)).

Information in an agency record must satisfy two criteria to qualify for the deliberative process privilege: it “must be both ‘predecisional’ and ‘deliberative.’” *Grand Cent. P’ship, Inc. v. Cuomo*, 166 F.3d 473, 482 (2d Cir. 1999) (quoting *Renegotiation Bd. v. Grumman Aircraft Eng’g Corp.*, 421 U.S. 168, 184 (1975)). A document is “predecisional” when it is “prepared in order to assist an agency decisionmaker in arriving at his decision,” *Hopkins*, 929 F.2d at 84 (quoting *Grumman*, 421 U.S. at 184), and if it “precedes, in temporal sequence, the ‘decision’ to which it relates,” *Grand Cent. P’ship*, 166 F.3d at 482. However, the government need not “identify a specific decision” made by the agency to establish the predecisional nature of a particular record. *NLRB v. Sears, Roebuck & Co.*, 421 U.S. 132, 151 n.18 (1975). As long as the document “was prepared to assist [agency] decisionmaking on a specific issue,” it is predecisional. *Tigue v. DOJ*, 312 F.3d 70, 80 (2d Cir. 2002).

“A document is ‘deliberative’ when it is actually related to the process by which policies are formulated.” *Grand Cent. P’ship*, 166 F.3d at 482 (quotation marks and ellipsis omitted). In determining whether a document is deliberative, courts inquire whether it “formed an important, if not essential, link in [the agency’s] consultative process,” whether it reflects the opinions of the author rather than the policy of the agency, and whether it might “reflect inaccurately upon or prematurely disclose the views of [the agency].” *Id.* at 483.

“It is well-settled that draft documents, by their very nature, are typically predecisional and deliberative. They reflect only the tentative view of their authors; views that might be altered or rejected upon further deliberation by their authors or by their superiors.” *Color of Change v. DHS*, 325 F. Supp. 3d 447, 453 (S.D.N.Y. 2018) (quoting *Amnesty Int’l USA v. CIA*, 728 F. Supp. 2d 479, 518 (S.D.N.Y. 2010)); *accord, e.g., Nat’l Council of La Raza v. DOJ*, 339 F. Supp. 2d 572, 583 (S.D.N.Y. 2004) (“Drafts and comments on documents are quintessentially predecisional and deliberative.”).

B. EPA’s Withholding of the Draft OMEGA Model Was Proper Under the Deliberative Process Privilege

1. EPA’s Draft OMEGA Model Is Predecisional

The current draft of the OMEGA model, version 1.4.59, is predecisional. As Plaintiffs acknowledge, the OMEGA model was developed “to assist agency decisionmakers in establishing standards for [greenhouse gas] emissions from new automobiles under the Clean Air Act.” Dkt. No. 40 (“Pl. Br.”) at 21; *see* Wehrum Decl. ¶ 6. The interim OMEGA draft that Plaintiffs seek was “prepared in order to assist an agency decisionmaker in arriving at [a] decision” on issues related (1) to the regulation of greenhouse gas emissions and (2) to future final versions of OMEGA, and is thus predecisional. *Tigue*, 312 F.3d at 80 (quoting *Grand Cent. P’ship*, 166 F.3d at 482); Wehrum Decl. ¶¶ 11-14. EPA has thus “established [the] deliberative

process[es] . . . involved, and the role played by the documents in issue in the course of th[ose] process[es].” *Coastal States Gas Corp. v. Dep’t of Energy*, 617 F.2d 854, 868 (D.C. Cir. 1980).

As noted above, the current version of the OMEGA model has not been used as the basis for a formal agency decisionmaking process, and specifically was not used as a basis for the proposed SAFE Vehicles Rule. Wehrum Decl. ¶ 8.⁴ Thus, the current interim version has not been finalized in the manner that it would be for use as part of a final agency decision, *see id.* ¶¶ 8, 12-14, 16-20; Charmley Decl. ¶¶ 17-21. Because OMEGA version 1.4.59 has not been relied upon in the agency’s rulemaking process, and because the current interim core model is not a finalized version, it necessarily precedes any potential final agency decision. *See Grand Cent. P’ship*, 166 F.3d at 482.

Plaintiffs incorrectly contend that because the withheld version was not used to develop the proposed SAFE Vehicles Rule, it thereby “did not play *any* role in the course of EPA’s decisionmaking process.” Pl. Br. at 21 (alterations and quotation marks omitted). Plaintiffs are wrong. The relevant question is whether version 1.4.59 of the core OMEGA model, like other interim versions, was prepared in the course of EPA’s decisionmaking concerning the broader regulation of auto emissions and future final versions of OMEGA—and it was. Wehrum Decl. ¶¶ 5-6, 11-14, 16. Accordingly, the draft model is predecisional. *See Tigie*, 312 F.3d at 80 (document was predecisional where it was “prepared . . . in order to assist the [agency] in its decisionmaking regarding the future of [an agency program]”); *see also Taxation with Representation Fund v. IRS*, 646 F.2d 666, 677-78 (D.C. Cir. 1981) (“[T]he courts have

⁴ As EPA notes, the OMEGA model may be used for agency vehicle emissions determinations in the future. Wehrum Decl. ¶ 9. Additionally, as noted above, EPA “briefly used the results from an interim version of the OMEGA model (v.1.4.59)” as part of an interagency review process for the SAFE Vehicles Rule, but “did not actually rely on the OMEGA model for analysis or otherwise in the rulemaking process.” Charmley Decl. ¶ 19.

recognized little public interest in the disclosure of ‘reasons supporting a policy which an agency has rejected, or reasons which might have supplied, but did not supply, the basis for a policy which was actually adopted on a different ground.’” (quoting *Sears*, 421 U.S. at 152)).

Moreover, the OMEGA model may be used for other EPA decisions in the future. Wehrum Decl. ¶ 9. EPA does not need to “identify a specific decision” it plans to make in the future using the evolving versions of the OMEGA model to establish the predecisional nature of the current draft of the model. *Sears*, 421 U.S. at 151 n.18; accord *Color of Change*, 325 F. Supp. 3d at 454. “[T]hat the government does not point to a specific decision made by the [agency] in reliance on the [deliberative material] does not alter the fact that the [material] was prepared to assist [agency] decisionmaking on a specific issue.” *Tigue*, 312 F.3d at 80. Contrary to Plaintiffs’ argument, the deliberative process privilege is not “contingent on later events[,] such as whether the draft ultimately evolved into a final agency position.” *Nat’l Sec. Archive v. CIA*, 752 F.3d 460, 463 (D.C. Cir. 2014). Indeed, “to require release of drafts that never result in final agency action would discourage innovative and candid internal proposals by agency officials and thereby contravene the purposes of the privilege.” *Id.*⁵

Therefore, EPA has established that version 1.4.59 of the OMEGA model is predecisional, and Plaintiffs’ arguments to the contrary should be rejected.

⁵ The fact that the version of the core OMEGA model sought by Plaintiffs is the current *latest* draft does not make it a final version. This misconception “has been rejected by both the Second and D.C. Circuits.” *Color of Change*, 325 F. Supp. 3d at 454; see *ACLU v. DOJ*, 844 F.3d 126, 133 (2d Cir. 2016) (concluding that document that was never ultimately published was nonetheless “a draft and for that reason predecisional”); *Nat’l Sec. Archive*, 752 F.3d at 463 (there “may be no final agency document because a draft died on the vine”—but a “draft is still a draft and thus still pre-decisional and deliberative”).

2. The Current Draft Version of OMEGA Is Deliberative, and Its Release Would Expose the Agency’s Consultative Process

The current draft version of OMEGA is deliberative. Agencies are “engaged in a continuing process of examining their policies,” which entails the creation of “recommendations which do not ripen into agency decisions; and the lower courts should be wary of interfering with this process.” *Sears*, 421 U.S. at 151 n.18. In like fashion, EPA is in a continuing process of considering updates to the OMEGA model. *See* Wehrum Decl. ¶¶ 11-12; Charmley Decl. ¶¶ 13-16. The release of the latest interim version would reveal “whether or not substantive analytical changes have been made or explored in the current version of the OMEGA model, which would betray the deliberative give and take of the policy development process.” Wehrum Decl. ¶ 14. EPA has established that the current draft version of the core model constitutes a part of its deliberations as to (1) future versions of the OMEGA model and the features of such a model, as well as (2) broader questions concerning methodologies for future vehicle emissions standards. *Id.* ¶¶ 9, 11-14, 16-20. OMEGA version 1.4.59 reflects only the preliminary thinking of EPA program staff, and their modifications have not been reviewed or approved by upper-level EPA policymakers. *Id.* ¶ 20. Thus, the interim core model is deliberative, as it “reflects the give-and-take of the consultative process” by which agency decisions and policies are formed. *Brennan Ctr.*, 697 F.3d at 202 (quotation marks omitted). “Materials that allow the public to reconstruct the predecisional judgments of the administrator are no less inimical to exemption 5’s goal of encouraging uninhibited decisionmaking than materials explicitly revealing his or her mental processes.” *Nat’l Wildlife Fed’n v. U.S. Forest Serv.*, 861 F.2d 1114, 1122 (9th Cir. 1988).

Plaintiffs argue that the current draft of the OMEGA model contains only “factual, investigative” material unprotected by the deliberative process privilege. Pl. Br. at 16-17. The Court should reject Plaintiffs’ simplistic view, which relies on a supposed dichotomy between

facts and deliberation. But the deliberative process privilege “was intended to protect not simply deliberative *material*, but also the deliberative *process* of agencies.” *Mapother v. DOJ*, 3 F.3d 1533, 1538 (D.C. Cir. 1993) (emphasis added) (quoting *Montrose Chem. Corp. v. Train*, 491 F.2d 63, 71 (D.C. Cir. 1974)). For this reason, it is “well-established law” that “the deliberative process privilege operates to shield from disclosure agency decision-making reflecting the collection, culling and assessment of factual information or scientific data.” *Ctr. for Biological Diversity v. EPA*, --- F. Supp. 3d ---, No. 16 Civ. 175, 2019 WL 1382903, at *12 (D.D.C. Mar. 27, 2019) (collecting cases); *see, e.g., Petroleum Info. Corp. v. Dep’t of Interior*, 976 F.2d 1429, 1435 (D.C. Cir. 1992) (“To the extent that predecisional materials, even if ‘factual’ in form, reflect an agency’s preliminary positions or ruminations about how to exercise discretion on some policy matter, they are protected under Exemption 5.”); *Lead Indus. Ass’n, Inc. v. OSHA*, 610 F.2d 70, 83 (2d Cir. 1979) (“disclosure of factual portions of the report may reveal the deliberative process of selection”).

Courts have concluded that scientific models, studies, and tools like OMEGA may be protected by the deliberative process privilege. In *Goodrich Corp. v. EPA*, 593 F. Supp. 2d 184, 189 (D.D.C. 2009), the court considered a parallel challenge to the withholding of an EPA “draft groundwater flow model.” The requester—like Plaintiffs here—asserted that “the model is purely factual and facts cannot be deliberative.” *Id.* The *Goodrich* court squarely rejected this argument, holding that the

model reflects EPA’s deliberative process because evolving iterations of the Model’s inputs and calibration reflect the opinions of the staff currently developing the Model, which may not represent EPA’s ultimate opinions relating to these matters. Therefore, even if the data plugged into the model is itself purely factual, the selection and calibration of data is part of the deliberative process to which Exemption 5 applies. Therefore, EPA has properly withheld the groundwater flow model, even though it plans to release the complete or final model in the future.

Id. at 189-90 (internal citations and quotation marks omitted).

Similarly, in *Urban Air Initiative, Inc. v. EPA*, 271 F. Supp. 3d 241 (D.D.C. 2017), the court considered a requester’s challenge to the withholding of a study that EPA conducted as part of the agency’s process of creating an “updated emissions model that considered the effect of individual fuel properties on emissions from vehicles.” *Id.* at 247. The court upheld EPA’s withholding of information concerning the study, concluding that it was protected by the deliberative process privilege. *Id.* at 260-61. In creating the study, EPA “had to make critical decisions” concerning “types of fuel blends it could and should test,” and also “defined the scope of the study, estimated costs, determined test procedures, and selected the fuel parameters and vehicles”—the “sorts of decisions” that are “exactly the type of agency judgments that the deliberative process privilege protects.” *Id.* at 261 (quotation marks omitted). Thus, the *Urban Air Initiative* court rejected the plaintiff’s argument that “deliberations that are technical in nature” do not “relate to any policy-oriented judgment.” *Id.* at 260.

These holdings support EPA’s withholding of the draft core OMEGA model. EPA’s ongoing process of updating and modifying the core OMEGA model is protected by the deliberative process privilege. The “evolving iterations” the OMEGA model “reflect the opinions of the staff currently developing” it, but may “not represent EPA’s ultimate opinions relating to these matters.” *Goodrich*, 593 F. Supp. 2d at 189 (quotation marks omitted). Moreover, EPA’s future changes may include consideration of specific modifications to the OMEGA model, including the addition of “an economic simulation or consumer choice sub-model as an analytical tool.” Wehrum Decl. ¶¶ 17-20. Indeed, the release of the current version of the core model would compromise internal agency considerations even if it were to reveal only that the agency did not add such features. *See id.* ¶¶ 14, 19.

The agency’s determinations in updating the model are “committed to the expertise and

judgment of EPA.” *Urban Air Initiative*, 271 F. Supp. 3d at 261. The fact that EPA’s internal deliberations concerning such changes may have “entailed considerations of scientific principles does not mean that those discussions were not ‘deliberative.’” *Id.* Indeed, Plaintiffs’ notion that scientific deliberations are unprotected “makes little sense” in the context of EPA, whose “core mission is directly related to and affected by science.” *Id.*; accord *Ctr. for Biological Diversity*, 2019 WL 1382903, at *11 (fact that agency decision “depends on a scientific assessment . . . does not divest the agency’s decisionmaking process of eligibility for Exemption 5 protection”).

The cases cited by Plaintiffs are inapposite. The principal case they cite is *Reilly v. EPA*, 429 F. Supp. 2d 335 (D. Mass. 2006), where the court concluded that *outputs* from a computer model—as opposed to the model itself—were not protected by the deliberative process privilege. *Id.* at 348-52. The *Reilly* court first held that the relevant model outputs were simply “raw data or empirical evidence used by the EPA in its rulemaking,” and on this basis concluded that the “requested [model] runs fall closer to fact and would not reveal the agency’s protectable thought processes.” *Id.* at 352 (quotation marks omitted). But the relevant version of the computer model in *Reilly* was already “available for use by the public,” “with its intrinsic assumptions and information.” *Id.* at 350, 353. Therefore, *Reilly* is distinguishable, as it did not involve the withholding of a draft version of a model itself, whose release would reveal the agency’s deliberative process in revising and updating the draft.⁶

The other decisions Plaintiffs cite are also distinguishable. *Lahr v. NTSB* involved a final

⁶ Even were its holding applicable, *Reilly* also appears to have been incorrectly decided. As the court there conceded, its decision necessarily revealed the “agency’s thought process” by exposing the agency’s choice of inputs. *Reilly*, 429 F. Supp. 2d at 352. The court departed from this premise to the conclusion that “[i]n a larger sense everything could be considered deliberative,” but acknowledged that the case was “not easily decided” and came down to “where one draws the line between protected and non-protected material.” *Id.*

version of a computer flight path simulation that the NTSB in fact “used in determining the probable cause of the crash of Flight 800 and the safety recommendations that followed.” *Lahr v. NTSB*, No. 03 Civ. 8023, 2006 WL 2854314, at *23 (C.D. Cal. Oct. 4, 2006). This, of course, is unlike the current draft OMEGA model, which is not in final form and which has not been used in final agency decisionmaking; in particular, it was not used as the basis for EPA’s Safe Vehicles Rule. Wehrum Decl. ¶¶ 7-8. Moreover, *Lahr* concluded that the NTSB computer simulation was not deliberative because the court found “no evidence that, by reviewing the disclosed source file, a reader would be able to understand or reconstruct the [agency’s] deliberative process,” nor that “disclosure of this program would disclose the content of [the agency’s] review and co[mm]ent.” *Lahr*, 2006 WL 2854314, at *24.⁷ This is not the case here: given prior releases of the OMEGA model, the agency’s consultative processes would be disclosed because its decisions about modifications to the program would be revealed by comparison to past released versions. *See* Wehrum Decl. ¶¶ 16-20. And *Carter v. U.S. Dep’t of Commerce* involved the release of *data* derived from a calculation—not the calculation methodology or material revelatory of the deliberative process that generated that methodology. 186 F. Supp. 2d 1147, 1156-57 (D. Or. 2001) (“The data sought are numbers. It may be that a deliberative process led to the methodology which generated the numbers, but the numbers are the result of the deliberative process. They are not the process.”), *aff’d*, 307 F.3d 1084 (9th Cir. 2002). Moreover, in *Carter*, the agency had already “disclosed a significant amount of the calculations, assumptions, hypotheses, equations, analysis, and discussion relevant to the

⁷ This was, in part, because the only version of the program at issue was the “executable file, which consists of binary machine language (0s and 1s).” *Lahr*, 2006 WL 2854314, at *23.

[withheld] adjusted data.” *Id.* at 1156.⁸

Nor do Plaintiffs successfully distinguish *Cleary, Gottlieb, Steen & Hamilton v. HHS*, in which the court—like the courts in *Goodrich* and *Urban Air Initiative*—concluded that computer programs used to study epidemiology were protected by the deliberative process privilege because their release would reveal the “decision-making process behind the culling and selection of relevant facts.” 844 F. Supp. 770, 783 (D.D.C. 1993). As the court there held, the computer programs, which were continually modified, “reflect[ed] their creator’s mental processes.” *Id.* at 782-83. Just so with the current draft of the core OMEGA model, which “reflect[s] the opinions of the staff developing the model, [and] may not represent EPA’s ultimate opinions regarding these matters.” Wehrum Decl. ¶ 17; *see id.* ¶¶ 19-20.

Plaintiffs deny by *ipse dixit* that they can understand EPA staff’s mental processes through “iterative revisions” to the OMEGA model, Pl. Br. at 20, but they do not explain why comparing the current draft of OMEGA to the last released version would not allow them to do precisely that. *See* Wehrum Decl. ¶¶ 14-20. Indeed, such a comparison between a draft and a final version is precisely the kind of disclosure that the deliberative process privilege is meant to preclude. *See Lead Indus.*, 610 F.2d at 86 (“If [a withheld] segment [of a draft] did not appear in the final version, its omission reveals an agency deliberative process: for some reason, the agency decided not to rely on that fact or argument after having been invited to do so. . . . [S]uch disclosure of the internal workings of the agency is exactly what the law forbids.”); *Shinnecock*

⁸ Plaintiffs also cite *Kansas ex rel. Schmidt v. U.S. Dep’t of Def.*, 320 F. Supp. 3d 1227, 1244 (D. Kan. 2018), for the proposition that “deliberative process privilege does not protect estimates made where the estimator followed a strict set of guidelines and made few subjective guesses.” *See* Pl. Br. at 19 n.5. But this in fact undermines Plaintiffs’ argument: EPA is not following “a strict set of guidelines” in revising OMEGA. Instead, the release of the current draft version would reveal the agency’s deliberations about what the “guidelines” for analysis under the model should be—not simply the result of a predetermined formula.

Indian Nation v. Kempthorne, 652 F. Supp. 2d 345, 371 (E.D.N.Y. 2009) (“[A]ny differences between the first memorandum . . . and the second memorandum would only be non-cumulative to the extent that they revealed the evolution of the draft. However, such a disclosure would infringe upon the deliberative process privilege.”).

For these reasons, EPA has established that the current draft version of the OMEGA model is deliberative; Plaintiffs’ arguments to the contrary are unavailing.

3. Release of the Draft OMEGA Model Would Cause the Types of Harm That the Deliberative Process Privilege Is Intended to Prevent

At a loss under the principal elements of the deliberative process test, Plaintiffs suggest that the Court should look to the “animating purposes” of the privilege. Pl. Br. at 21-22. But here, too, their arguments fail, as the release of the draft OMEGA model would foreseeably cause harm protected by the deliberative process privilege.

First, Congress created the deliberative process privilege in part to prevent the “harm to the candor of present and future agency decisionmaking” that would result from the release of predecisional and deliberative materials. *Nat’l Sec. Archive*, 752 F.3d at 464. It is clear that “the quality of administrative decision-making would be seriously undermined if agencies were forced to operate in a fishbowl because the full and frank exchange of ideas on . . . policy matters would be impossible.” *McKinley v. Bd. of Governors of Fed. Reserve Sys.*, 647 F.3d 331, 339 (D.C. Cir. 2011) (quotation marks omitted).

The release of nonfinal, interim versions of the core OMEGA model would harm EPA’s decisionmaking processes. Release “would chill free and open discussions of EPA staff regarding their opinions on the appropriate analytical tools to be included in the model,” because agency program staff “would be less likely to test or experiment with new calibrations or tools that could help create a more effective and robust version of the OMEGA model” if their

nonfinal work product was constantly susceptible to release to the public before it was finalized. Wehrum Decl. ¶ 21. “This chilling effect would impact EPA’s decisionmaking processes and ability to have internal discussions and consultations while designing and updating complex models like OMEGA, and may harm the agency’s decisionmaking capabilities in the future regulatory development process.” *Id.*

Plaintiffs’ arguments to the contrary are unconvincing. They contend that because the model “is not the work of any one employee,” it could not lead an employee to be “singled out for criticism.” Pl. Br. at 22. But this does not follow: nothing in logic or law suggests that the premature release of deliberative materials is less likely to chill discussions when created by a team rather than a single individual. *Cf. Brennan Ctr.*, 697 F.3d at 206 (release of deliberative materials will dissuade “subordinates within an agency” from “provid[ing] the decisionmaker with their uninhibited opinions and recommendations without fear of later being subject to public ridicule or criticism” (quotation marks omitted)). Next, Plaintiffs misstate OMEGA’s release history. It was not subject to “routine disclosure,” Pl. Br. at 22, in *draft* form, but instead was released only when “the agency formally relied upon it in its analysis of a regulatory action such as a proposed or final rule,” Wehrum Decl. ¶ 7—that is, when the model was *final* for relevant policy purposes. Last, Plaintiffs claim that the model’s code cannot reflect recommendations, Pl. Br. at 22, but this is wrong. Revelation of draft modifications to the model may reveal EPA program staff’s consideration of policy choices that may not ultimately become the position adopted by EPA—or may, by the same process, indicate that no such changes were made. *See* Wehrum Decl. ¶¶ 14-21; *see also Goodrich*, 593 F. Supp. 2d at 189 (“The draft groundwater flow model reflects EPA’s deliberative process because evolving iterations of the Model’s inputs and calibration reflect the opinions of the staff currently developing the Model, which may not

represent EPA's ultimate opinions relating to these matters." (quotation marks omitted)).

Second, release of the draft OMEGA model would lead to public confusion. "[O]rdering release of . . . never-finalized [materials] would fail to safeguard and promote agency decisionmaking processes by . . . not protecting against confusing the issues and misleading the public by dissemination of documents suggesting reasons and rationales for a course of action which were not in fact the ultimate reasons for the agency's action." *Brennan Ctr.*, 697 F.3d at 206 (brackets and quotation marks omitted)). Here, the "current version of the OMEGA model does not represent the final form that the model would take if it were tied to a regulatory action, nor does it reflect final decisions about how the model should be calibrated and run, or which analytical tools it should contain." Wehrum Decl. ¶ 22. Moreover, the "OMEGA model was not relied on in development" of the SAFE Vehicles rule; releasing the current version "in draft form would confuse the public as to the agency's final policy decisions regarding that rule." *Id.*

Plaintiffs again make the flawed argument that disclosure of the current version of the OMEGA model will not disclose proposed policies or cause confusion because it was not used in the development of the SAFE Vehicles Rule. Pl. Br. at 22-23. This is erroneous for the same reasons outlined in Part I.B.1: the draft OMEGA model forms a part of EPA's broader consideration of how best to regulate auto emissions under the Clean Air Act in addition to its deliberations about future versions of OMEGA; moreover, the OMEGA model may be used for other EPA rulemakings in the future. Wehrum Decl. ¶¶ 5-6, 8-9, 11-14, 16-20. Therefore, release of draft OMEGA model version 1.4.59 would foreseeably cause precisely the types of harm that the deliberative process privilege is intended to prevent. *See Urban Air Initiative*, 271 F. Supp. 3d at 262 (withholding of internal EPA study served purposes of protecting "open and frank discussions" among agency staff and also to prevent "public confusion if certain reasons,

rationales, and conclusions that were not in fact ultimately the position of the EPA were released” (quotation marks omitted).

4. Plaintiffs’ “Letter or Memorandum” Argument Is Unavailing

Finally, the Court should reject Plaintiffs’ apparently novel argument that the OMEGA model cannot be withheld under exemption 5 because it does not constitute a protected “memorandum” or “letter.” Pl. Br. at 14-15. But Plaintiffs cite no law supporting such a narrow reading of exemption 5; indeed, the law is to the contrary. “Congress enacted Exemption 5 to protect the executive’s deliberative processes—not to protect specific materials.” *Dudman Commc’ns Corp. v. Dep’t of Air Force*, 815 F.2d 1565, 1568 (D.C. Cir. 1987) (concluding that courts may “in some instances reach plainly inappropriate results” by “focusing merely on the nature of the material sought”); *see also Russell v. Dep’t of the Air Force*, 682 F.2d 1045, 1048 (D.C. Cir. 1982) (exemption 5 “protects not only communications which are themselves deliberative in nature, but all communications which, if revealed, would expose to public view the deliberative process of an agency”).

The deliberative process of the agency is not limited to information in documents taking the form of letters or memoranda. In recognition of this fact, many courts have concluded that the disclosure of information in non-communication forms are protected. For instance, the Second Circuit has concluded that “tabular or graphic summaries” of data were protected by exemption 5 because they constituted “a part of the deliberative process,” and “their disclosure would ‘compromise the confidentiality of deliberative information.’” *Lead Indus.*, 610 F.2d at 85 (quoting *EPA v. Mink*, 410 U.S. 73, 92 (1973)). For analogous reasons, the D.C. Circuit concluded that Navy “cost estimates” prepared in the process of the Navy’s selection of “homeports for ships in a new battleship group” were protected. *Quarles v. Dep’t of Navy*, 893 F.2d 390, 392 (D.C. Cir. 1990). Accordingly, the fact that deliberative materials may take a

form that is not characterized as a “letter,” “memorandum,” or other communication with an author and recipient, *see* Pl. Br. at 15, is of little moment. *See Montrose Chem. Corp.*, 491 F.2d at 67-71 (summaries of factual information from record of EPA administrative hearing regarding pesticide registrations were protected by deliberative process); *Charles v. Office of the Armed Forces Med. Exam’r*, 935 F. Supp. 2d 86, 95 (D.D.C. 2013) (draft autopsy reports protected by exemption 5); *see also Fla. House of Representatives v. U.S. Dep’t of Commerce*, 961 F.2d 941, 949-50 (11th Cir. 1992) (“adjusted block level data” generated by methodology ultimately rejected by the agency was “a proposal or a recommendation” subject to deliberative process privilege, despite the fact that the “advice” took “the form of numbers”).⁹

C. EPA Properly Concluded That No Reasonable Segregation of the OMEGA Core Model Was Possible but Released Other Updated OMEGA Files

FOIA provides that “[a]ny reasonably segregable portion of a record shall be provided to any person requesting such record after deletion of the portions which are exempt under this subsection.” 5 U.S.C. § 552(b). “Agencies are entitled to a presumption that they complied with the obligation to disclose reasonably segregable material.” *Sussman v. U.S. Marshals Serv.*, 494 F.3d 1106, 1117 (D.C. Cir. 2007). “[T]he law is clear that the reasonable segregation requirement of FOIA does not require [an agency] to commit significant time and resources to a task that would yield a product with little, if any, informational value.” *Amnesty Int’l*, 728 F. Supp. 2d at 529 (quotation marks omitted). If “factual materials are ‘inextricably intertwined’ with policy making recommendations so that their disclosure would ‘compromise the

⁹ Plaintiffs cite *Tigue v. DOJ* for the proposition that “Exemption 5 protects only ‘intra-agency’ or ‘inter-agency’ communications.” Pl. Br. at 15 (quoting *Tigue*, 312 F.3d at 77). But *Tigue*’s holding had no bearing on Plaintiffs’ “letter or memorandum” argument. Instead, the Second Circuit concluded that even documents prepared *outside* the federal government by a consultant could be protected by exemption 5—even though they are not “intra-agency” or “inter-agency” documents, as the text of the exemption suggests. *Tigue*, 312 F.3d at 77-79. *Tigue* does not support, and in fact undermines, Plaintiffs’ proposed reading of exemption 5.

confidentiality of deliberative information that is entitled to protection under Exemption 5,' the factual materials themselves fall within the exemption.” *Lead Indus.*, 610 F.2d at 85 (quoting *Mink*, 410 U.S. at 92) (citation omitted).

EPA reasonably segregated its release here by disclosing the OMEGA input files, pre-processors, and post-processors compatible with version 1.4.59, and withholding the latest interim core model in full. Charmley Decl. ¶¶ 22-24. Any factual information within the draft core OMEGA model was properly withheld because it would reveal EPA’s deliberative process by indicating what information EPA considered central to policy determinations concerning nonfinal iterations of the model as well as broader issues of auto emissions regulation. Wehrum Decl. ¶¶ 15-16 (“selection of the factual information contained in the OMEGA model was a part of the deliberative process of creating those draft versions or discussions of accompanying regulations”); see *Kemphorne*, 652 F. Supp. 2d at 371 (“[W]hen the facts are so intertwined with a policy recommendation and thereby embody the judgment of its author, revealing those facts is akin to revealing the opinions of the author and the give-and-take of the deliberative process.”).

II. PLAINTIFFS HAVE NOT DEMONSTRATED GOOD CAUSE TO EXPEDITE THIS ACTION

In conjunction with their motion for summary judgment, Plaintiffs once again move to expedite this action pursuant to the Civil Priorities Act, which permits a court to expedite consideration of an action “if good cause therefor is shown.” 28 U.S.C. § 1657(a). There is no good cause to expedite consideration here; accordingly, Plaintiffs’ request should be denied.

Initially, Plaintiffs do not qualify for FOIA’s expedited processing provision. Indeed, in their complaint to this Court, they did not challenge EPA’s administrative denial of expedited processing. See Dkt. No. 1 (“Compl.”); Charmley Decl. ¶ 7. “[U]nder FOIA, plaintiffs are entitled to expedited processing of their requests only if they demonstrate a ‘compelling need’

for expedition.” *Al-Fayed v. CIA*, 254 F.3d 300, 303 (D.C. Cir. 2001) (citing 5 U.S.C. § 552(a)(6)(E)(i)(I)). Congress intended that the rule permitting expedited processing be “narrowly applied.” *Id.* at 310 (quotation marks omitted). FOIA defines a “compelling need” to mean, in the context of a request “made by a person primarily engaged in disseminating information,” an “urgency to inform the public concerning actual or alleged Federal Government activity.” 5 U.S.C. § 552(a)(6)(E)(v); *see* 40 C.F.R. § 2.104(e) (EPA regulations).¹⁰

Plaintiffs do not qualify for expedited processing under FOIA’s statutory requirements. Principally, Plaintiffs are not primarily engaged in disseminating information. This requirement “does not include individuals who are engaged only incidentally in the dissemination of information”; rather, “information dissemination must be *the* main activity of the requester,” though it “need not be [the requester’s] sole occupation.” *ACLU of N. Cal. v. DOJ*, No. 04 Civ. 4447, 2005 WL 588354, at *9 (N.D. Cal. Mar. 11, 2005) (emphasis in original). Courts usually find that “reporters and members of the media qualify” under this prong, but have rejected such requests by groups—like Plaintiffs—that engage “in both litigation and information dissemination.” *Nat’l Day Laborer Org. Network v. ICE*, 236 F. Supp. 3d 810, 816-17 (S.D.N.Y. 2017) (citing cases); *accord ACLU of N. Cal.*, 2005 WL 588354, at *14 (concluding ACLU affiliate was not primarily engaged in disseminating information); *see Century Found. v. Devos*, No. 18 Civ. 1128 (PAC), 2018 WL 3084065, at *5 (S.D.N.Y. June 22, 2018) (“non-partisan think-tank” did not qualify for expedited processing).

Plaintiffs also have not shown an urgency to inform the public, an analysis that focuses on factors including “whether the request concerns a matter of current exigency to the American

¹⁰ Plaintiffs do not argue that the withholding of the requested records would “pose an imminent threat to the life or physical safety of an individual.” 5 U.S.C. § 552(a)(6)(E)(v)(I).

public” and “whether the consequences of delaying a response would compromise a significant recognized interest.” *Al-Fayed*, 254 F.3d at 310. Plaintiffs do not identify any “imminent action indicating that the requested information will ‘not retain its value if procured through the normal FOIA channels.’” *Long v. DHS*, 436 F. Supp. 2d 38, 43 (D.D.C. 2006) (quotation marks omitted). Plaintiffs contend that they need the OMEGA model to provide their analysis of a potential final agency rulemaking, Pl. Br. at 24, but their argument is unconvincing. Plaintiffs state that agency action will take place in the “near future,” without a specific deadline, and they concede that they could request that EPA reconsider any decision. *Id.* at 24-25 & n.6.¹¹ They do not show that the model would not retain its value if received in the ordinary course. *See Long*, 436 F. Supp. 2d at 43. Thus, Plaintiffs are not entitled to expedited processing under FOIA.

Plaintiffs attempt to avoid the FOIA expedited processing standard by requesting that the Court expedite this matter under 28 U.S.C. § 1657(a) instead. But the Court should look to FOIA’s own standards to determine whether expedition is appropriate. Because Plaintiffs do not qualify, and have otherwise failed to demonstrate good cause, the Court should deny Plaintiffs’ request to expedite this matter pursuant to 28 U.S.C. § 1657(a).¹²

CONCLUSION

For the foregoing reasons, EPA’s motion for summary judgment should be granted, and Plaintiffs’ motion for summary judgment and to expedite should be denied.

¹¹ The relevant deadline to which Plaintiffs pointed in their complaint was a notice-and-comment window on a proposed rule that closed in October 2018; Plaintiffs conceded that they submitted comments during this period. *See* Compl. ¶¶ 6, 53-59.

¹² The cases on which Plaintiffs rely for their § 1657(a) argument are distinguishable. In *Brennan Ctr. for Justice v. U.S. Dep’t of State*, 300 F. Supp. 3d 540, 547-48 (S.D.N.Y. 2018), the requester was *granted* expedited processing by the agency. Here, as noted above, EPA denied Plaintiffs’ expedited processing request; Plaintiffs did not challenge that denial in their complaint. And *Ferguson v. FBI*, 722 F. Supp. 1137 (S.D.N.Y. 1989), was decided before Congress amended FOIA to add the expedited processing provision, leaving the court without the guidance Congress has now provided concerning which FOIA matters deserve expedition.

Dated: May 3, 2019
New York, New York

Respectfully submitted,

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UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK

NATURAL RESOURCES DEFENSE COUNCIL
and ENVIRONMENTAL DEFENSE FUND,

Plaintiffs,

-v-

UNITED STATES ENVIRONMENTAL
PROTECTION AGENCY,

Defendant.

18 Civ. 11227 (PKC) (DCF)

DECLARATION OF WILLIAM L. WEHRUM

I, William L. Wehrum, declare pursuant to 28 U.S.C. § 1746 that the following statements are true and correct to the best of my knowledge and belief, and that they are based upon information acquired by me in the course of performing my duties, information contained in the records of the United States Environmental Protection Agency (EPA or agency), and information supplied to me by current and former EPA employees including employees under my direction.

1. I am Assistant Administrator for the EPA Office of Air and Radiation (OAR), which is located at 1200 Pennsylvania Avenue, NW, Washington, D.C. 20460. OAR develops and implements national programs, policies and regulations for controlling air pollution and radiation exposure. Among other responsibilities, OAR is responsible for administering the Clean Air Act (CAA), 42 U.S.C. §§ 7401 to 7671q.

2. I am familiar with the Freedom of Information Act (FOIA) request EPA-HQ-2018-010465 submitted by the Natural Resources Defense Council (NRDC) that is at issue in the above-captioned matter. This declaration will explain the basis for withholding the source code

of a particular EPA model pursuant to FOIA Exemption 5, under the deliberative process privilege. It is submitted in support of EPA's motion for summary judgment and opposition to Plaintiffs' motion for summary judgment

I. Relevant Background on the Safer Affordable Fuel Efficient (SAFE) Vehicles Proposed Rule

3. On August 24, 2018, EPA and the National Highway Traffic Safety Administration (NHTSA) jointly proposed the Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021-2026 Passenger Cars and Light Trucks, which, if finalized, would amend certain existing Corporate Average Fuel Economy (CAFE) and tailpipe carbon dioxide emissions standards for passenger cars and light trucks and establish new standards, all covering model years 2021 through 2026. Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021-2026 Passenger Cars and Light Trucks, 83 Fed. Reg. 42,986 (proposed Aug. 24, 2018).

4. As outlined in the SAFE Vehicles proposal, it was determined it was "reasonable and appropriate" to use the U.S. Department of Transportation's (DOT's) CAFE model for EPA's analysis of regulatory alternatives. 83 Fed. Reg. at 43,000-02.

II. The Optimization Model for Reducing Emissions of Greenhouse Gases from Automobiles (OMEGA Model)

5. The OMEGA model is a computer model with source code written in C#, Matlab, Visual Basic, Python, and Excel.

6. As outlined in the Declaration of William Charmley, the OMEGA model contains a series of algorithms designed to evaluate the relative cost and effectiveness of available technologies and apply them to a defined vehicle fleet to help facilitate the analysis of the costs and benefits of reducing greenhouse gas emissions.

7. In the past, EPA has publicly released the latest updated version of the source code for the OMEGA model (“core model”), in addition to the other pieces of the model discussed in the Charmley Declaration, only when the agency formally relied upon it in its analysis of a regulatory action such as a proposed or final rule. EPA has publicly released five versions of the OMEGA model since its first iteration, each of which correspond to a particular regulatory action.

8. EPA did not rely on the OMEGA model in the development of the SAFE Vehicles proposed rule. As discussed above, EPA and NHTSA relied instead on DOT’s CAFE model. As such, and consistent with prior practice, EPA did not release an updated version of the OMEGA model at the time the SAFE Vehicles rule was proposed, nor has it done so since then.

9. While it was not relied on in the SAFE Vehicles proposed rule, EPA may use the OMEGA model to inform rulemakings relating to vehicle emissions in the future.

10. EPA first began development of the OMEGA model in 2009. In October of 2009, EPA publicly released for the first time a version of the OMEGA model to support the joint EPA-NHTSA rule entitled “Model Year 2012-2016 Light Duty Greenhouse Gas Emissions Standards and Corporate Average Fuel Economy Standards,” which was proposed on September 28, 2009 and published on May 7, 2010.

11. The OMEGA model has grown and developed since its inception. In addition to the monthly or even weekly updates to the entire OMEGA model by the EPA staff at the Office of Transportation and Air Quality (OTAQ) who work with it closely, upper-level decisionmakers may work with technical staff on a longer timeline to make more substantive analytical changes to the core model, giving it further functionality to allow EPA’s policy decisions to be as well-informed as possible.

12. The regulatory development process and the process of making upgrades to the OMEGA model have traditionally proceeded in parallel. As a regulation develops, EPA's high-level policymakers may realize that they need a different or more substantial type of analysis in a certain area to determine the available policy options that are supported by a robust technical record. In other words, the policy choices made throughout the regulatory development process are inextricably tied to the analytical choices internal to the OMEGA model itself made by those same policymakers.

13. The OMEGA model only becomes final and appropriate for public release, and has only been publicly released in the past, when the regulatory development process has become similarly final. Before that point, and before high-level policymakers have weighed in with their final opinions about the types of analysis that should be done and policy choices that could be made, public release of interim forms of either the OMEGA model or the regulation itself would divulge information only reflecting the initial opinions of staff and, as such, would reveal the agency's deliberations.

14. Releasing an updated interim core model would reveal whether or not substantive analytical changes have been made or explored in the current version of the OMEGA model, which would betray the deliberative give and take of the policy development process.

15. Any factual information contained in the core model is inextricably intertwined with deliberative information to the extent that no meaningful portion could be released. The inclusion or exclusion of analytical tools, including changes to the algorithms themselves, track the analytical and policy framework of draft versions of or discussions about potential accompanying regulations.

16. Even the selection of the factual information contained in the OMEGA model was a part of the deliberative process of creating those draft versions or discussions of accompanying regulations. Disclosure of the mere choice of which analytical tools were employed, or not employed, would betray the agency's pre-decisional deliberations.

17. Before it is released publicly alongside a regulatory action, the OMEGA model is in draft form. The evolving iterations of the analytical tools used in the model currently reflect the opinions of the staff developing the model, which may not represent EPA's ultimate opinions regarding these matters.

18. Take, for example, the policy question of whether to add an economic simulation or consumer choice sub-model as an analytical tool to the OMEGA model, which EPA has considered doing for at least seven years. In the 2012 Model Documentation for version 1.4.1 of the OMEGA model (the version that supported the joint EPA-NHTSA rule entitled "Final Rulemaking to Establish 2017 and Later Model Year Light-Duty Vehicle Greenhouse Gas Emissions Standards"), EPA stated that it had "begun development of an economic simulation or consumer choice component to OMEGA." In the most recent public release of version 1.4.56 of the OMEGA model, EPA stated that "OMEGA may be expanded in the future" to include such an analytical tool.

19. The mere fact of whether or not policy consideration was given to including such an analytical tool in the current version of the OMEGA model, and the outlines and parameters of any such hypothetical tool, would reveal EPA's pre-decisional thinking about the role of consumer choice in the regulatory development process. Even if release of the current interim version revealed only that the agency did not add such a feature, that disclosure would nonetheless compromise EPA's deliberations on policy determinations.

20. Further, no upper-level policymaker has made a final decision as to whether such a tool should or should not be included in any final version of OMEGA that may actually be used to support a regulatory action, since OMEGA was not relied on for the SAFE Vehicles proposed rule. The interim version of OMEGA that exists today, and the inclusion or exclusion of any such tool in that version, reflects only the preliminary thinking of OTAQ staff.

21. I believe the release of the OMEGA model would be harmful to the agency. First, it would chill free and open discussions of EPA staff regarding their opinions on the appropriate analytical tools to be included in the model. If the staff working on updating the model knew that their interim updates or initial attempts to create new analytical tools would someday be released to the public, they would be less likely to test or experiment with new calibrations or tools that could help create a more effective and robust version of the OMEGA model. This chilling effect would impact EPA's decisionmaking processes and ability to have internal discussions and consultations while designing and updating complex models like OMEGA, and may harm the agency's decisionmaking capabilities in the future regulatory development process.

22. Second, I believe the release of the OMEGA model would cause public confusion. The current version of the OMEGA model does not represent the final form that the model would take if it were tied to a regulatory action, nor does it reflect final decisions about how the model should be calibrated and run, or which analytical tools it should contain. The OMEGA model was not relied on in development of the SAFE rule. Accordingly, releasing it in draft form would confuse the public as to the agency's final policy decisions regarding that rule.

I declare, under penalty of perjury, that the foregoing is true and correct.

Dated: May 3, 2019
Washington, District of Columbia

A handwritten signature in black ink, appearing to read "W L Wehrum", written in a cursive style.

William L. Wehrum
Assistant Administrator
Office of Air and Radiation
U.S. Environmental Protection Agency

UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK

NATURAL RESOURCES DEFENSE COUNCIL
and ENVIRONMENTAL DEFENSE FUND,

Plaintiffs,

-v-

UNITED STATES ENVIRONMENTAL
PROTECTION AGENCY,

Defendant.

18 Civ. 11227 (PKC) (DCF)

DECLARATION OF WILLIAM CHARMLEY

I, William Charmley, declare pursuant to 28 U.S.C. § 1746 that the following statements are true and correct to the best of my knowledge and belief, that they are based upon information acquired by me in the course of performing my duties, information contained in the records of the United States Environmental Protection Agency (EPA or Agency), and information supplied to me by current and former EPA employees including employees under my direction.

1. I am the Director for the Assessment and Standards Division (ASD), part of the EPA Office of Transportation and Air Quality (OTAQ) within the Office of Air and Radiation (OAR). I have held this position since 2013. I have worked at the EPA for over 27 years.

2. I am familiar with the Freedom of Information Act (FOIA) request EPA-HQ-2018-010465 submitted by the Natural Resources Defense Council (NRDC) that is at issue in the above-captioned matter. This declaration is submitted in support of EPA's motion for summary judgment and opposition to Plaintiffs' motion for summary judgment.

3. OTAQ is responsible for protecting public health and the environment by addressing issues related to air pollution and greenhouse gas emissions from motor vehicles,

engines, and the fuels used to operate them, and by encouraging business practices and travel choices that minimize emissions.

4. I have read and am personally familiar with Plaintiffs' pending FOIA request at issue, designated EPA-HQ-2018-010465 ("Plaintiffs' FOIA Request"). In my current capacity as Division Director, I oversee staff in responding to certain FOIA requests assigned to OTAQ, including this FOIA request.

A. Plaintiffs' FOIA Request

5. On August 10, 2018, Natural Resources Defense Council electronically submitted its FOIA Request through EPA's FOIAOnline system. A true copy of the request, excluding attachments, is attached hereto as Exhibit A. The request was a letter dated July 25, 2018 with attachments. EPA's National FOIA office assigned the request to OTAQ.

6. Plaintiffs' FOIA Request originally sought the following records:

A. Any and all versions of the Optimization Model for Emissions of Greenhouse Gases from Automobiles (OMEGA models), not previously made public, including but not limited to any OMEGA models used to inform EPA's Mid-Term Evaluation of Greenhouse Gas Emissions Standards for Model Year 2022-2025 Light-Duty Vehicles (the MTE), 83 FR 16077 (Apr. 13, 2018); and/or EPA and the National Highway Traffic Safety Administration's (NHTSA) expected joint notice of proposed rulemaking to revise model year 2021-26 light-duty vehicle (LDV) greenhouse gas (GHG) and augural Corporate Average Fuel Economy (CAFE) standards (the MY2021-26 Proposal), including any and all source code for the various OMEGA models' components and any and all documentation describing the logical flow and relationship between those components;

B. The "decision trees" utilized by the most recent version of the OMEGA models referred to in #[A], above;

C. Any and all input files for all OMEGA models referred to in #[A], above;

D. Any and all data and analysis supporting the development of baseline vehicles and the OMEGA models' baseline fleet(s) of LDV;

E. Any and all data and analysis supporting cost estimates and/or cost projections for any and all technologies identified by EPA as having the potential to decrease GHG emissions in LDV;

F. Any and all data and analysis supporting estimates and/or projections regarding the actual or potential effectiveness in decreasing GHG emissions of all technologies described in #[E], above;

G. Any and all data and analysis supporting the development of estimates and/or projections regarding maximum feasible penetrations of the technologies described in #[E], above, across the U.S. fleet including all data and analysis related to the development of constraints to market penetration below what would otherwise be dictated by market economics;

H. Any and all data and analysis regarding the cadence, timing, and duration of product redesign and refresh cycles assumed for vehicles in the baseline fleet;

I. The methodology and results of all Advanced Light-Duty Powertrain and Hybrid Analysis (ALPHA) modeling used to develop the estimates for the effectiveness of all technologies described in #[E], above;

J. Any and all documents, instructions, and data methodology (computer programs and/or computer files, as appropriate) used to convert the vehicle data, technology costs, effectiveness estimates, and any other relevant information described in #[D] through #[I] into inputs to the OMEGA models;

K. Any and all models and/or components, as well as all data and analysis, regarding impacts on vehicle sales, including sale prices (including both Manufacturer's Suggested Retail Prices and prices actually paid by consumers), consumer demand, consumer willingness to pay, consumer choice, consumer preference, vehicle mix across the US fleet, vehicle performance, scrappage rates, fleet size, fleet mix, vehicle miles traveled, safety, and/or fleet turnover rates used to inform the MTE or the MY 2021-26 Proposal; and

L. Any data and/or analysis pertaining to the impact of vehicle fuel economy and/or vehicle price on the amount of driving done by vehicle operators.

Exhibit A at 1-3.

7. On August 21, 2018, EPA's National FOIA Office granted Plaintiffs' request for a fee waiver and denied Plaintiffs' expedited processing request.

B. Background on the OMEGA Model

8. In 2009, EPA found that vehicle emissions of six greenhouse gases (GHGs) taken in combination endanger public health and welfare, which triggered a Clean Air Act duty to establish federal standards for such emissions. 74 Fed. Reg. 66,496 (Dec. 15, 2009). EPA developed the OMEGA model to assist decision makers in the process of establishing those federal standards.

9. The OMEGA model was designed to help predict how automakers could combine and apply emissions-reduction technologies in the most cost-effective way to achieve those standards. EPA has released five versions of the OMEGA model. EPA's website contains background information on the OMEGA model and the model releases. See

<https://www.epa.gov/regulations-emissions-vehicles-and-engines/optimization-model-reducing-emissions-greenhouse-gases>.

10. The OMEGA model generally contains five main components:

a. Inputs: Microsoft Excel spreadsheets and text files containing factual data.

The inputs compatible with OMEGA v.1.4.59 have been released in full to Plaintiffs.

b. Pre-processors: Spreadsheets and some Visual Basic, Python, and MATLAB code that helps translate the inputs into the necessary form to be input into the core model. The pre-processors compatible with OMEGA v.1.4.59 have been released in full to Plaintiffs.

c. Core model: The core C# code at the center of the modeling process, discussed in more detail below. The core model for OMEGA v.1.4.59 has been withheld in full pursuant to 5 U.S.C. § 552(b)(5).

d. Post-processors: Spreadsheets, Visual Basic, and Python code required to generate a benefit-cost analysis based on the core model outputs. The post-processors compatible with OMEGA v.1.4.59 have been released in full to Plaintiffs.

e. Outputs: The raw data generated by the model, generally in spreadsheet form. Plaintiffs are not seeking model outputs.

11. The core model is designed to consider the fleets for each individual automaker and determine their GHG program compliance targets for a relevant set of years. It then considers the range of technology packages available to each automaker's individual vehicles and determines the most cost-effective path toward achieving the compliance target.

12. The inputs and pre-processors generate the universe of possible technology packages that could be applied to each vehicle model in an automaker's fleet. The core model considers which of those packages an individual automaker could apply given a set of constraints, most notably the potential compliance targets set by the agency, while remaining as cost-effective as possible.

13. To accomplish that goal, the core model contains numerous algorithms that run thousands of calculations each time the model is used. EPA has developed the algorithms at issue over the course of a number of versions of the OMEGA model.

14. OTAQ staff sometimes make small updates to the suite of OMEGA modeling tools as often as once per week.

15. In the past, when EPA has planned to take a regulatory action—whether that be a proposed or final rule or a technical assessment supporting a proposed or final rule—that relies on the OMEGA model, the agency has released an approved, final version of the model and

associated input and output files publicly alongside that regulatory action so the public may use the same tools and input data the agency did in its final analysis for that action.

16. The last version of OMEGA that EPA released publicly is v.1.4.56, which accompanied EPA's 2016 Proposed Determination and 2016 Draft Technical Assessment Report Model Year 2022-2025 Light-Duty Vehicle Greenhouse Gas Standards. Since that time, the model has been updated by staff in various ways to reflect changes in how EPA does its analysis.

17. On August 24, 2018, EPA and the National Highway Traffic Safety Administration (NHTSA) jointly proposed the Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021-2026 Passenger Cars and Light Trucks, which, if finalized, would amend certain existing Corporate Average Fuel Economy (CAFE) and tailpipe carbon dioxide emissions standards for passenger cars and light trucks and establish new standards, all covering model years 2021 through 2026. Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021-2026 Passenger Cars and Light Trucks, 83 Fed. Reg. 42,896 (proposed Aug. 24, 2018).

18. As outlined in the SAFE Vehicles proposal, it was determined it was "reasonable and appropriate" to use the U.S. Department of Transportation's (DOT's) CAFE model for EPA's analysis of regulatory alternatives rather than the OMEGA model. 83 Fed. Reg. at 43,000-02.

19. During the interagency review process for the SAFE Vehicles proposal, EPA briefly used the results from an interim version of the OMEGA model (v.1.4.59) as part of a presentation to the Office of Management and Budget, to discuss whether there were any ways the CAFE model analysis could be improved or made more efficient. However, the agency did not actually rely on the OMEGA model for analysis or otherwise in the rulemaking process.

20. While that interim version (v.1.4.59) was functional enough to run for illustrative purposes, EPA would not consider it a “complete” model version ready for public release.

21. Version 1.4.59 would not be considered “complete” in that it has not yet gone through any of the processes necessary to finalize the OMEGA model for release in tandem with an agency rulemaking, including briefing and approval from high-level policymakers.

C. EPA’s Response to Plaintiffs’ FOIA Request

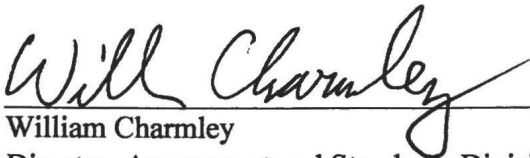
22. By letter dated March 4, 2019, EPA released “in full all the latest available input files for the latest full version of the OMEGA model (version 1.4.59).” In addition, EPA withheld “the latest full version of the OMEGA model itself (version 1.4.59) [i.e. the core model] pursuant to 5 U.S.C. § 552(b)(5), the Deliberative Process Privilege.” A true copy of EPA’s March 4, 2019, letter is attached hereto as Exhibit B.

23. On March 29, 2019, after negotiations with EPA, Plaintiffs narrowed the remainder of their request to “comprise the most recent complete set of records compatible with v.1.4.59 of EPA’s OMEGA model (with the exception of model ‘output’ data files).” In particular, Plaintiffs requested “Model Documentation,” “Installation Files” (i.e. source code), most recent “OMEGA pre-processors” including the “OMEGA ‘Machines,’” and the most recent input files compatible with OMEGA v.1.4.59. *See* Dkt. No. 37 (Joint Status Report).

24. By letter dated April 1, 2019, EPA completed its final response to Plaintiffs’ FOIA Request as narrowed. EPA determined that there are no agency records responsive to the portion of the request that sought “Model Documentation” for OMEGA v.1.4.59. EPA released in full all “OMEGA pre-processors” and “post-processors,” including the OMEGA “Machine” tool, that are compatible with OMEGA v.1.4.59. A true copy of EPA’s April 1, 2019, letter is attached hereto as Exhibit C.

I declare, under penalty of perjury, that the foregoing is true and correct.

Dated: May 3, 2019
Ann Arbor, MI



William Charmley
Director, Assessment and Standards Division
Office of Transportation and Air Quality
U.S. Environmental Protection Agency

IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF NEW YORK

NATURAL RESOURCES DEFENSE
COUNCIL and
ENVIRONMENTAL DEFENSE FUND,

Plaintiffs,

v.

UNITED STATES ENVIRONMENTAL
PROTECTION AGENCY,

Defendant.

Case No. 18-cv-11227-PKC
ECF Case

**MEMORANDUM OF LAW IN OPPOSITION TO DEFENDANT'S MOTION FOR
SUMMARY JUDGMENT AND REPLY IN SUPPORT OF PLAINTIFFS' MOTION
FOR SUMMARY JUDGMENT AND MOTION TO EXPEDITE**

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INTRODUCTION AND SUMMARY OF ARGUMENT

EPA plans to finalize this summer a rulemaking that would dramatically weaken existing greenhouse-gas emission standards for new cars and trucks through the middle of the next decade. At the same time, the agency is withholding factual information that is apparently at odds with EPA's planned course of action. FOIA exists to prevent precisely this sort of government secrecy. Because EPA has not met its burden under FOIA to show that this information may be withheld, Plaintiffs respectfully request that this Court expeditiously order this information released.

At issue is one element of EPA's "OMEGA" computer model: the current version of the "core" model. The core model is a basic-accounting tool—a specialized calculator—that calculates how vehicle manufacturers can add available technology to their fleets to reduce greenhouse-gas emissions. EPA does not dispute this point. Yet the agency still claims, incorrectly, that the core model is a "memorandum" or "letter" to which the deliberative-process privilege attaches, 5 U.S.C. § 552(b)(5), and that its disclosure to the public will "harm" EPA decisionmaking, *id.* § 552(a)(8).

This is an unprecedented position for EPA. The agency developed OMEGA using a public process and released several then-current versions of the model (including the core model) along with copious documentation explaining its design and development. Agency employees discussed details of the model with interested public stakeholders and actively encouraged the public's input in order to optimize the model's calculations. It is only now, as EPA takes steps to greatly weaken emission standards, that the agency is withholding this crucial computational tool from the public.

EPA's decision not to release the current version of the OMEGA core model is unlawful for several reasons. *First*, the deliberative-process privilege incorporated into FOIA Exemption 5 applies only to "memorandums" or "letters." The OMEGA core model is not a "memorandum," "letter," or any analogous form of communication.

Second, the OMEGA core model itself does not contain or reveal agency “deliberations.” EPA suggests the core model will reveal the mental processes behind selecting facts for modeling, but the agency is eliding the difference between the core model and the inputs to that model. The selection of facts in OMEGA occurs in preparing the input files, all of which EPA has released in this litigation without invoking any privilege. EPA also summarily contends, for the first time in this litigation, that this version of the OMEGA core model is only a “draft,” because the agency has not “finalized” it. Apart from being circular, EPA’s contention is rebutted by specific record evidence—including an affidavit from a former EPA official who oversaw four of the five public releases of the OMEGA model—that the agency does not have a formal procedure to “finalize” versions of the model, nor are upper-level policymakers required to review and approve them.

Third, this version of the OMEGA core model is not “predecisional” because the agency has said it is not relying on the model to make the very decision that the model was specifically designed to inform. EPA posits that it might change its mind years from now and use whatever version of the OMEGA model will then be current to inform some undefined future decision. But an agency must present more than bare speculation to justify withholding records requested under FOIA. A 2016 amendment to the statute requires agencies to release records that, even if exempt, will not actually be harmful to disclose. EPA’s generic response—that releasing any deliberative record will chill deliberations—could apply to any record and would sap Congress’ “foreseeable harm” amendment of all force. The public history of the OMEGA model belies EPA’s speculation about harm to agency decisionmaking from disclosure of yet another version of the core model.

In the final analysis, EPA falls well short of its burden to demonstrate that harm will flow from releasing the current core model. The overarching objective of FOIA is disclosure, and the Act’s limited exemptions are not a refuge in which to bury inconvenient facts. Congress intended

for FOIA “to provide a means of accountability, to allow Americans to know what their government is doing.” *Brennan Ctr. for Justice v. Dep’t of State*, 300 F. Supp. 3d 540, 545 (S.D.N.Y. 2018). EPA is violating FOIA by unlawfully withholding the latest version of the OMEGA core model from the public, and this Court should order the model’s immediate release.

ARGUMENT

I. EXEMPTION 5 DOES NOT APPLY TO THE OMEGA v.1.4.59 CORE MODEL.

A. The OMEGA v.1.4.59 core model fails the first condition of Exemption 5.

The Supreme Court has stressed that “the first condition of Exemption 5 is no less important than the second.” *Dep’t of the Interior v. Klamath Water Users Prot. Ass’n*, 532 U.S. 1, 9 (2001). Under the first condition, only “inter-agency or intra-agency *memorandums or letters*,” 5 U.S.C. § 552(b)(5) (emphasis added), may be withheld under Exemption 5. Plaintiffs have shown (Mem. 14-16) that the accounting program at issue in this case is not a *memorandum or letter* under any reasonable interpretation of those words. That ends the inquiry and means that the program must be disclosed under FOIA.

EPA criticizes (Mem. 21-22) Plaintiffs’ “novel” reliance on the language of Exemption 5 as probative of its meaning. But the Supreme Court has cautioned that the proper construction of a FOIA exemption always “starts with its text,” irrespective of whether prior “[j]udicial decisions ... have analyzed and reanalyzed the meaning of the exemption” while focusing “comparatively little attention on” its “simple words.” *Milner v. Dep’t of the Navy*, 562 U.S. 562, 569 (2011). This Court should reject EPA’s plea (Mem. 21) to ignore the ordinary meanings of *memorandum* and *letter*. Consistent with those ordinary meanings, *see* Pls. Mem. 14-15, this Court should hold that Exemption 5 does not embrace “non-communication forms” of information, Def. Mem. 21.

EPA treats *memorandums or letters* like “a purely conclusory [phrase], just a label to be placed on any document the Government would find it valuable to keep confidential.” *Klamath*,

532 U.S. at 12. But, if that phrase is to retain any “independent vitality” in Exemption 5, *ibid.*, it must be interpreted more narrowly than *records*, the catchall term encompassing all information subject to FOIA, *see* 5 U.S.C. § 552(a)(3)(A). *See also Milner*, 562 U.S. at 565 (emphasizing that FOIA exemptions “must be ‘narrowly construed’”). If Congress had intended for Exemption 5 to cover government documents of any stripe that would be privileged in litigation, Congress would have said so, by using the word “records” (as in Exemption 7); using another, similarly expansive descriptor like “information” (as in Exemptions 4, 7, and 9); or omitting a descriptive noun (as in Exemptions 1, 2, and 3). *See id.* § 552(b). Instead, Congress coined a new phrase, *memorandums or letters*, with no antecedent in FOIA or elsewhere in the United States Code. This Court must presume that Congress intended for that phrase “to have a particular, nonsuperfluous meaning,” *Bailey v. United States*, 516 U.S. 137, 146 (1995), that is narrower than *records*. Only Plaintiffs have offered such a meaning (Mem. 14-15): A *memorandum or letter* is a “communication.” *See Klamath*, 532 U.S. at 9 (using “communication” as shorthand for “memorandum or letter”).

EPA does not cite any case in which the court squarely addressed whether computer code is a *memorandum or letter*. The agency argues (Mem. 21-22) that some courts have classified non-communication forms of information as *memorandums or letters*. But the records withheld in those cases obviously were communications. In *Lead Industries Ass’n v. Occupational Safety & Health Administration*, 610 F.2d 70 (2d Cir. 1979), for example, the Second Circuit ruled that an agency could withhold under Exemption 5 “tabular and graphic summaries” that federal officials included in a “report” “to facilitate understanding.” *Id.* at 85. Likewise, the “cost estimates” deemed exempt in *Quarles v. Department of the Navy*, 893 F.2d 390, 392 (D.C. Cir. 1990), appeared in a “report” that conveyed those estimates to agency decisionmakers, *id.* at 391. Plaintiffs do not dispute that *memorandums or letters* may feature numbers; indeed, tables and graphs are a common way to

communicate the meaning of numbers. But that does not mean every agency record that contains numbers—even “binary machine language (0s and 1s),” Def. Mem. 16 n.7 (citation omitted)—is a *memorandum or letter* that an agency may withhold under Exemption 5. In sum, the OMEGA v.1.4.59 core-model code is not a *memorandum or letter*, and EPA must disclose it.

B. The OMEGA v.1.4.59 core model fails the second condition of Exemption 5.

Exemption 5’s second condition incorporates “what is sometimes called the ‘deliberative process’ privilege.” *Klamath*, 532 U.S. at 8. As a threshold matter, EPA’s two declarations lack the requisite “detailed explanations” to show that the core model could fall within that privilege. *Florez v. C.I.A.*, 829 F.3d 178, 182 (2d Cir. 2016). Regardless, the privilege does not apply here because the OMEGA v.1.4.59 core model is neither “deliberative” nor “predecisional.” *Tigue v. U.S. Dep’t of Justice*, 312 F.3d 70, 76 (2d Cir. 2002). The core model is not *deliberative*; it is an objective, computational tool that does not reveal any subjective judgment of EPA policymakers. And v.1.4.59 of the model is not *predecisional* because EPA itself has disavowed reliance on the model as a source of information for the only specific decision now facing the agency.

1. EPA has not provided sufficient detail to invoke the deliberative-process privilege.

EPA bears the burden of demonstrating that the OMEGA v.1.4.9 core model is exempt, and “all doubts as to the applicability of the exemption must be resolved in favor of disclosure.” *Florez*, 829 F.3d at 182. EPA’s position that the core model is exempt from disclosure “receives no deference.” *Bloomberg, L.P. v. Bd. of Gov’rs of the Fed. Reserve Sys.*, 601 F.3d 143, 147 (2d Cir. 2010). Affidavits filed in support of an agency’s invocation of a FOIA exemption generally are accorded a presumption of good faith. *Florez*, 829 F.3d at 182. But that presumption “only applies when accompanied by reasonably detailed explanations of why material was withheld.” *Ibid.* Affidavits also must establish that “information logically falls within the claimed exemption,”

and they must not be “controverted by ... contrary evidence in the record.” *Wilner v. Nat’l Sec. Agency*, 592 F.3d 60, 73 (2d Cir. 2009). Courts will not credit averments that “are conclusory,” “vague” or “merely recit[e] statutory standards.” *Quinon v. F.B.I.*, 86 F.3d 1222, 1227 (D.C. Cir. 1996). *See also Adelante Ala. Worker Ctr. v. Dep’t of Homeland Sec.*, --- F. Supp. 3d ---, 2019 WL 1380334, at *4-*9 (S.D.N.Y. Mar. 26, 2019) (discussing these requirements for affidavits).

The two affidavits submitted by EPA lack the reasonable detail necessary to show that the OMEGA v.1.4.59 core model could logically fall within the deliberative-process privilege. EPA’s affiants do not dispute the detailed technical description of OMEGA in Plaintiffs’ memorandum of law and supporting declarations. *Cf.* Pls. Mem. 6-8, 20. EPA officials recognize that OMEGA has several distinct components, Charmley Decl. ¶ 10, but their affidavits frequently—and sometimes misleadingly—elide important differences among those components. In particular, the OMEGA input files and core model are materially different. The OMEGA model “relies heavily on its input files,” Pls. Mem. 8 (quoting EPA’s own documentation), and “the culling and selection of facts in OMEGA occurs, if at all, in preparing the data files,” *id.* at 20. In response to this litigation, EPA released the *input files* in full without asserting deliberative-process privilege. In contrast, the *core model* that EPA is withholding “is simply a computational tool—a type of specialized calculator.” *Id.* at 7 (quoting Lutsey Decl. ¶ 22).

Plaintiffs discuss in more detail below the specific instances where an EPA affidavit does not substantiate the agency’s position. But the following example is illustrative: EPA asserts that OMEGA versions have only ever been released in “final” form, Wehrum Decl. ¶ 13, and that no version of the model can be “finalize[d]” without “briefing and approval from high-level policy makers,” Charmley Decl. ¶ 21. The agency does not state the positions these policymakers hold, or represent that they have ever actually received such a briefing on the OMEGA core model or

approved it for release. Margo Oge, the former director of the EPA office that developed OMEGA, avers that no such briefing or approval took place for the first four of the five public releases of OMEGA; that no such practice existed; and that several versions of the model were released in advance of final actions in order to invite public review. Oge Supp. Decl. ¶¶ 10, 12. Similarly, the fifth and final release was expressly made in connection with a non-decisional document. *See id.* ¶ 12. EPA’s unsupported assertion that “upper-level decisionmakers may work with technical staff” to make “substantive analytical changes to the core model,” Wehrum Decl. ¶ 11, therefore would represent a sharp break from the agency’s practice through at least 2012, when upper-level policymakers were not involved in amending the core model, *see* Oge Supp. Decl. ¶ 8.

EPA’s affiants do not assert that the agency made *any* substantive, policy-related revision to the OMEGA core model between versions 1.4.56 (publicly released in July 2016) and 1.4.59 (available no later than April 2018, *see* Charmley Decl. ¶ 19; Lutsey Decl., Ex. B). Remarkably, EPA argues that the latter version is privileged because its disclosure “would reveal ‘*whether or not* substantive analytical changes have been made.’” Def. Mem. 12 (quoting Wehrum Decl. ¶ 14 (emphasis added)). Stating that *EPA can neither confirm nor deny* the existence of new material that would expose deliberations is not the “reasonably detailed” explanation that FOIA demands. *Florez*, 829 F.3d at 181-82. Otherwise, EPA could use Exemption 5 to withhold *any* memorandum or letter because the agency hypothetically could have appended some deliberative material to it.

Indeed, the hypothetical EPA posits—that the agency may have incorporated an economic simulation or “consumer choice” model subsequent to its release in 2016, Wehrum Decl. ¶ 18—merely highlights the deficiency of the agency’s affidavits. EPA *did* develop a consumer-choice model *in 2012*, and it told the public as much. Cooke Decl. ¶¶ 4-6. In EPA’s most recent OMEGA release in 2016, the consumer-choice model was encoded in the OMEGA core model, but turned

off.¹ *Id.* ¶¶ 10, 14. Moreover, the input files that EPA already has disclosed for v.1.4.59—which have exactly the same consumer-choice inputs as v.1.4.56 (released in 2016), *id.* ¶ 12—reveal that it is “highly unlikely” that the preexisting consumer-choice model has been altered, *id.* ¶ 15. That upper-level agency policymakers apparently were not aware of this seven-year-old feature of the OMEGA model only shows that the policymakers are not directly involved in its development.

2. The OMEGA core model is not “deliberative.”

The archetypal deliberative document shielded by Exemption 5 is a recommendation that communicates the writer’s subjective opinions to agency decisionmakers for consideration in a specified process of policy formulation. *See, e.g., Nat’l Council of La Raza v. Dep’t of Justice*, 411 F.3d 350, 352 (2d Cir. 2005); *Tigue*, 312 F.3d at 73; *Grand Cent. P’ship, Inc. v. Cuomo*, 166 F.3d 473, 482-83 (2d Cir. 1999). The OMEGA v.1.4.59 core model looks nothing like that. *See* Cooke Decl., Ex. A. It is a computational tool—a basic accounting program—that consists of lines of computer programming code. *See, e.g.,* Pls. Mem. Ex. K. The core-model code does not reveal a “process by which factual [modeling] material was assembled through an exercise of judgment.” *Color of Change v. U.S. Dep’t of Homeland Sec.*, 325 F. Supp. 3d 447, 455 (S.D.N.Y. 2018) (internal quotation marks and citation omitted). The overall OMEGA model reflects such a process, if at all, in the *input* files over which EPA has not asserted any privilege. Because v.1.4.59 of the core model is not itself “deliberative,” it must be released.

EPA admits (Mem. 13) that the core model is a factual, scientific tool. As a general rule, such material is not privileged. *See Cuomo*, 166 F.3d at 482. The standard for evaluating whether

¹ In fact, there is no evidence that the consumer-choice model has ever been turned *on* by EPA. *See, e.g.,* 77 Fed. Reg. 62,623, 62,916/3 (Oct. 15, 2012) (stating that “EPA is therefore not using its preliminary consumer choice model”).

such material may be exempt from disclosure is not in dispute.² A record may be withheld if its release would reveal “the process by which ‘factual material was assembled through an exercise of judgment.’” *Color of Change*, 325 F. Supp. 3d at 455. Put another way, the factual document could be protected if the document itself would “reveal the deliberative process of selection” that led to particular facts being included in that document. *Lead Indus.*, 610 F.2d at 83.

The OMEGA v.1.4.59 core model does not contain or indirectly reveal such judgments. In its attempt to shoehorn the core model into the narrow exception for deliberative factual material, the agency conflates the OMEGA core model with (i) already-released OMEGA input files, and (ii) memorialized discussions among officials *about* OMEGA. EPA also summarily contends that v.1.4.59 of the OMEGA core model is a “deliberative draft.” Those arguments are untenable.

a. The OMEGA core model does not reveal the subjective process of factual selection.

EPA glosses over material distinctions among the components of OMEGA. It cannot be overemphasized that all that remains in dispute is the v.1.4.59 core model. The agency does not contest that the core model “is simply a computational tool—a type of specialized calculator.” Pls. Mem. 7 (quoting Lutsey Decl. ¶ 22). The OMEGA core model’s cost-minimization function is guided by mathematical principles, not the subjective opinion of any agency decisionmaker or subordinate. *Contra* Def. Mem. 17 n.8. The core model has a “simple” user interface, and “all of

² EPA raises several strawman arguments. Plaintiffs have never suggested “that scientific deliberations are unprotected.” Def. Mem. 15. As a public health agency, EPA’s deliberations in particular should be overwhelmingly focused on scientific considerations, often to the exclusion of political or other expedient considerations. The reason that the OMEGA v.1.4.59 core model must be disclosed under FOIA is not that it is scientific but rather that it is not deliberative. *See* Pls. Mem. 16-20. Nor did Plaintiffs posit a simple “dichotomy” between facts and deliberation. Def. Mem. 12. Rather, Plaintiffs acknowledge (Mem. 16-17) that each record falls somewhere on a fact-deliberation “spectrum.” “In limited circumstances, factual records may be considered for deliberative protection.” Pls. Mem. 18. This case just does not present one of those circumstances.

the information needed to run the model is contained in the input files.” Pls. Mem. 8 (quoting the agency’s own model documentation); *see also* Cooke Decl., Ex. A.

EPA has not asserted any privilege over these input files. Plaintiffs have shown, and EPA has not rebutted, that the “culling and selection” of pertinent facts in OMEGA “occurs, if at all, in preparing the data files” that the agency has released. *Id.* at 20. These inputs are no longer at issue. Nor do Plaintiffs seek EPA e-mails or memoranda *about* OMEGA, such as records memorializing model runs performed by agency employees. Release of such records plausibly might reveal the content of privileged EPA deliberations. But disclosure of the core model itself—a computational tool with a simple interface—could not plausibly expose privileged details of EPA deliberations about *why* certain inputs were selected for use in the model rather than others.

The agency’s authorities (Mem. 13-15) illustrate the point. EPA cites *Center for Biological Diversity v. EPA*, 2019 WL 1382903 (D.D.C. Mar. 27, 2019), for the uncontroversial proposition that documents revealing “the collection, culling and assessment of factual information” may be deliberative. EPA. Mem. 13. In that case, the plaintiffs sought EPA records concerning findings that a new pesticide would have no effect on endangered species. 2019 WL 1382903, at *1. But the requested records were internal emails, internal briefing documents, and written drafts of the final released findings. *Id.* at *15-*16. The records sought were, in other words, not the agency’s underlying data or factual material, but rather the memorialized discussions *about* that data.

Plaintiffs acknowledge that an intra-agency email discussing “the collection, culling, and assessment” of OMEGA-related data might be exempt from disclosure, but Plaintiffs do not seek such records. Further, as noted above, the “deliberative” culling and selection of data for OMEGA occurs, if at all, in the preparation of the input-data files that EPA has already released without a

claim of privilege. *See* Pls. Mem. 16-17, 20. The OMEGA core model is thus at a second remove from the deliberative “selection” emails and reports withheld in *Center for Biological Diversity*.

EPA also invokes *Urban Air Initiative, Inc. v. EPA*, 271 F. Supp. 3d 241 (D.D.C. 2017), to argue that an agency will need to deliberate in the process of creating a model. Def. Mem. 14. Plaintiffs do not dispute that general proposition. But *Urban Air Initiative* does not support EPA’s withholding of the OMEGA core model. Just as in *Center for Biological Diversity*, the plaintiffs in *Urban Air Initiative* sought not the model code but e-mails and other prose documents related to a pre-modeling “study.” 271 F. Supp. 3d at 261-262; *see also* EPA Ex. HH, *Urban Air Initiative*, D.D.C. No. 15-cv-01333 (Sept. 2, 2016) (Dkt. 19-11) (EPA’s *Vaughn* index for withheld records). EPA selectively quotes (Mem. 14) *Urban Air Initiative* as declaring that the “sorts of decisions” involved in developing the study were “exactly the type of agency judgments that the deliberative process privilege protects,” 271 F. Supp. 3d at 261. The agency omits the court’s explanation that the “decisions” were “reached through the exchange of emails and other internal agency records.” *Ibid.* In other words, the court in *Urban Air Initiative* upheld EPA’s withholding of inter-agency communications that directly memorialized the “internal discussions” of agency personnel. *Ibid.* Plaintiffs are not seeking any analogous communications in this case.

EPA relies heavily on *Goodrich Corp. v. EPA*, 593 F. Supp. 2d 184 (D.D.C. 2009), but that case did not involve “a parallel challenge to the withholding of an EPA ‘draft groundwater flow model.’” Def. Mem. 13 (quoting 593 F. Supp. 2d at 189). Although the court’s opinion at times referred broadly to the “model,” the actual processing code—equivalent to the core model withheld here—was publicly available. *See* Declaration of K. Takata, EPA, ¶ 27, *Goodrich Corp. v. EPA*, D.D.C. No. 08-cv-01625-JDB (Oct. 20, 2008) (Dkt. 17-2) (stating that an EPA official had informed plaintiffs “that the model code” could be obtained from an EPA vendor). The *Goodrich*

plaintiffs instead requested all draft iterations and calibrations records of inputs to the model. *See Goodrich*, 593 F. Supp. 2d at 189. The release of these “evolving iterations,” the court reasoned, might reveal “the selection and calibration of data [that] is part of the deliberative process.” *Ibid.* Here, as in *Goodrich*, the selection and calibration of data occurs outside the core model and, in any event, the relevant input data already has been released by EPA without a claim of privilege.

EPA’s treatment (Mem. 15-17) of Plaintiffs’ authorities further illustrates the distinctions between potentially deliberative materials and the OMEGA v.1.4.59 core model. *First*, as Plaintiffs have recognized (Mem. 18), the records at issue in *Reilly v. EPA*, 429 F. Supp. 2d 335 (D. Mass. 2006), were model outputs that would, in turn, reveal the agency’s choice of model inputs. 429 F. Supp. 2d at 348–49, 352. The salient point is that the court in *Reilly* considered EPA’s *inputs* the part of the overall model that might be most reflective of judgment (and even that possibility did not, in the court’s view, justify withholding the outputs). Furthermore, EPA ignores that, when discussing the overall modeling process, the *Reilly* court stated that “the internal workings of [the model],” *i.e.*, the core model, were “*not in any way deliberative.*” *Id.* at 353 (emphasis added).

Second, EPA fails in its attempt (Mem. 16) to distinguish *Lahr v. National Transportation Safety Board*, 2006 WL 2854314 (C.D. Cal. Oct. 4, 2006), on the basis that the model there was “final,” whereas OMEGA v.1.4.59 is a “draft.” As discussed *infra*, pages 13-16, EPA’s “draft” label for OMEGA v.1.4.59 is conclusory and contradicted by record evidence. In any event, *Lahr* did not turn on the “finality” of the model at issue. The agency’s problem was a lack of “evidence that, by reviewing the disclosed source file, a reader would be able to understand or reconstruct the [agency’s] deliberative process.” 2016 WL 2854314 at *24. EPA has the same problem here. Like the “executable file” in *Lahr*, *id.* at *23, the OMEGA core model is “merely a tool used in connection with other data to derive a result based upon that data,” *id.* at *24.

Finally, in *Cleary, Gottlieb, Steen & Hamilton v. Department of Health & Human Services*, 844 F. Supp. 770 (D.D.C. 1993), the court permitted an agency to withhold the bespoke computer programs of a single researcher, Dr. Philen. Her programs were “uniquely” tailored to a specific epidemiological database; the research required “continuous changes” in data selection; and the “frequent” iterative revisions to her program code, coupled with the output files, made it possible to trace her personal “mental processes.” *Id.* at 782–83. *Cleary* is best understood as protecting the record of the modeling performed by a single, identifiable individual from disclosure.³ Moreover, unlike in *Cleary*, the “culling and selection” of facts in the OMEGA modeling process occurs, if at all, when preparing the input files that EPA already has disclosed as not privileged. *Id.* at 783.

b. The OMEGA v.1.4.59 core model is not a deliberative draft.

EPA’s primary ground for withholding the core model as deliberative is that the v.1.4.59 core model is purportedly an incomplete “draft.” The agency then contends (Mem. 17-18) that, because it has voluntarily released the v.1.4.56 core model, Plaintiffs will be able to compare the versions and forensically deduce “EPA staff’s mental processes.” Both these arguments lack merit.

i. The OMEGA v.1.4.59 core model is not a “draft.”

EPA’s bare assertion that the OMEGA v.1.4.59 core model is a “draft” is suspect. As far as Plaintiffs can tell, this is the first time during this litigation that the agency has suggested that the current version of OMEGA is an incomplete draft. EPA’s answer; its earlier briefing in this case; its final decision on Plaintiff’s FOIA request; and its letters to this Court all indicated that

³ EPA claims (Mem. 19) that disclosure of records attributable to a single individual is no likelier to chill candid deliberations than records that cannot be so attributed. Human experience suggests otherwise, as does the law. *See, e.g., Coastal States Gas Corp. v. Dep’t of Energy*, 617 F.2d 854, 866 (D.C. Cir. 1980) (explaining that one purpose of the deliberative-process privilege is to protect individual “subordinate[.]” government officials from “public ridicule or criticism”). Furthermore, EPA has not established in this case that the public would have any way to identify which agency official(s) directed any changes to the OMEGA core model after its latest release.

OMEGA v.1.4.59 was complete. The FOIA determination, for example, represents that “EPA is withholding the latest *full* version of the OMEGA model itself (version 1.4.59).” Pls. Mem. Ex. D (emphasis added). Now, however, an EPA official has attested that OMEGA v.1.4.59 is not “complete.” Charmley Decl. ¶ 20. The agency has yet to explain the difference between a “full” model and a “complete” model.⁴ In any event, EPA’s claim that the OMEGA v.1.4.59 core model is a deliberative draft lacks merit.

EPA’s basis for classifying the OMEGA v.1.4.59 core model as a “draft” is the bare, and tautological, contention that it has not been “finalized.” *See, e.g.*, Wehrum Decl. ¶ 17 (“Before it is released publicly alongside a regulatory action, the OMEGA model is in draft form.”). But the only process “necessary to finalize the OMEGA model” that EPA actually identifies is supposed “briefing and approval from high-level policymakers.” Charmley Decl. ¶ 21. In other words, EPA asserts that OMEGA is only ever in “final” form when senior officials explicitly declare it to be final. The Second Circuit has rejected this sort of clear-statement requirement elsewhere, *e.g.*, *La Raza*, 411 F.3d at 357 n.5, and with good reason. Affording an agency open-ended discretion to formally denote as a “draft” a functionally “final” record would undermine FOIA’s “dominant objective” of disclosure. *Klamath*, 532 U.S. at 7-8.

EPA does not claim that any change to the v.1.4.59 core model source code is technically or practically necessary to facilitate public release. And the agency offers no evidence that “high-level policymakers” direct any changes to the core model source code. Historically, EPA has not

⁴ EPA has inconsistently described the model throughout this litigation. For example, in a March 19, 2019, letter to this Court, the agency represented that the “[OMEGA] model” does not encompass the “pre-processors,” and that the “pre-processors” are “not necessary to fully utilize the OMEGA model.” (*See* Dkt. 34 at 1.) EPA now contradicts those representations and declares that the same “pre-processors” are a “*main component*[.]” of “the OMEGA model,” that translate input data “into the necessary form” for the “core model.” Charmley Decl. ¶ 10 (emphasis added).

had any “finalization” policy or practice for the OMEGA core model. *See* Oge Supp. Decl. ¶¶ 5, 8, 10-11. In this litigation, EPA asserts that it has only ever released “final” versions of OMEGA, Def. Mem. 19 (citing Wehrum Decl. ¶ 7), but it offers no support for that assertion, and there is strong contrary evidence in the record.

The former Director of the EPA Office responsible for OMEGA has asserted definitively that no such “review and approval” policy existed during her tenure, when EPA released the first four public versions of the OMEGA model. *See* Oge Supp. Decl. ¶¶ 10-11. Rather, EPA released the current version of the model when “it was most likely that public stakeholders would utilize the model.” *Id.* ¶ 11. Thus, EPA published OMEGA, “including the core model,” in conjunction with proposed rules “in order to invite public input and review.” *Id.* ¶ 12. These proposal models “explicitly were not ‘final’ versions of OMEGA used to inform final agency decisions.” *Ibid.*

There is no evidence of a shift in agency practice since Plaintiffs’ affiant retired in 2012. To the contrary, EPA’s fifth and most recent release of the OMEGA core model (version 1.4.56) in 2016 was made in connection with a “Draft Technical Assessment Report (TAR),” which the agency clarified was “a technical report, not a policy decision document.” EPA, *Draft Technical Assessment Report: Midterm Evaluation of Light-Duty Vehicle Greenhouse Gas Emission Standards & Corporate Average Fuel Economy Standards for Model years 2022-2025*, at ES-1, EPA-420-D-16-900 (July 2016). Plaintiffs also have proffered evidence that “EPA staff were empowered to share information about the model with stakeholders at all other times,” outside the context of formal public releases, Oge Supp. Dec. ¶ 11; *see also id.*, Exs. A & B, and there is no evidence of a change in practice on this score. In short, the record overwhelmingly contradicts EPA’s position that only inherently “final” versions of OMEGA have been (or could be) released.

The current version of the OMEGA core model, v.1.4.59, has been the current version for more than a year, since at least April 2018. *See* Charmley Decl. ¶ 19. That specific version of the core model was functional enough then—and agency officials confident enough in it—for EPA to run the model and present results to the Office of Management and Budget within the Executive Office of the President. *Ibid.* In sum, beyond EPA’s bald assertion in litigation, nothing suggests that the v.1.4.59 core model is a “draft.” It is, according to EPA, the “latest full version,” *see* Pls. Mem. Ex. D, and it must be released under FOIA

ii. The OMEGA v.1.4.59 core model is not a *deliberative* draft.

Even assuming that the OMEGA v.1.4.59 core model remains a “draft” in any meaningful sense, EPA still has failed to demonstrate that it is a *deliberative* draft. Plaintiffs acknowledge that some “draft” documents can fall within FOIA’s Exemption 5. *See, e.g., Color of Change*, 325 F. Supp. 3d. at 453. But “that something is labeled a draft . . . is not enough to render it privileged.” *Nat’l Day Laborer Org. Network v. U.S. Imm. & Customs Enf’t Agency*, 811 F. Supp. 2d 713, 741 (S.D.N.Y. 2011), *amended on reconsideration* (Aug. 8, 2011). A “draft” is exempt from disclosure under FOIA only “if it contains discussions that reflect the policy-making process.” *Ibid. Accord Arthur Andersen & Co. v. I.R.S.*, 679 F.2d 254, 257–58 (D.C. Cir. 1982) (“Even if a document is a draft of what will become a final document, the court must also ascertain whether the document is deliberative in nature.” (internal quotation marks and citation omitted)).

EPA asserts, again without support, that the OMEGA v.1.4.59 core model itself “reflects the give-and-take” of the agency’s consultative process of policy formation and is deliberative for that reason. Def. Mem. 12. EPA later suggests (Mem. 17) that the content of this consultative

give-and-take—the mental processes of its staff—can be understood by examining the “iterative revisions” to the OMEGA model.⁵ This assertion is flawed for at least three reasons:

First, EPA’s assertion (Mem. 17) that the OMEGA core model is “continually modified,” giving rise to the possibility of forensic reassembly of “the opinions of the staff developing the model,” is misleading. As elsewhere, EPA’s vague statement that “the entire OMEGA model” is updated “monthly or even weekly,” Wehrum Decl. ¶ 11, elides the important distinctions among the different components of OMEGA. *See supra*, page 6. The model’s *inputs*, the data files on which the overall model “relies heavily,” Pls. Mem. 8, may be updated by EPA technical staff to reflect real-world developments on a monthly timescale. But the only component at issue here—the OMEGA *core model*—is just a specialized calculator: an “accounting” program that reads the input data and performs a pre-set series of mathematical computations on that data. *See* Pls. Mem. 17; Lutsey Decl. ¶¶ 9, 22. The most recent version of the core model, v.1.4.59, has been in place since at least April 2018. *See* Charmley Decl. ¶ 19. EPA thus has not demonstrated that the core model is subject to frequent, “iterative revisions.” Def. Mem. 17.

Second, comparing two standalone versions of a computer model is a prospect different in kind from comparing two drafts of a memorandum. Memorandums are written in prose and for the purpose of communicating ideas and supporting rationales: employees literally “spell out in writing the pitfalls as well as strengths of policy options.” *Center for Biological Diversity*, 2019 WL 1382903, at *10 (quoting *Judicial Watch, Inc. v. Dep’t of Defense*, 847 F.3d 735, 739 (D.C.

⁵ EPA protests (Mem. 17) that Plaintiffs have not explained why comparing the v.1.4.59 core model to the last released v.1.4.56 core model would not reveal the content of deliberations by agency officials. Plaintiffs have given an exhaustive explanation, but regardless, they do not bear this burden. It is black-letter FOIA law that EPA has the burden to explain why comparing the source codes *would* reveal such consultative content—and all doubts are resolved in favor of disclosure, not secrecy. *See Florez*, 829 F.3d at 182.

Cir. 2017)). Comparing “before” and “after” revisions of a memorandum can provide easy insight into the thinking behind the change because both the versions “spell out” *why* they reached their conclusions. In contrast, computer codes reveal what code was programmed, but not why it was programmed that way. *See* Pls. Mem. 18. Even assuming a computer science expert could comb through tens of thousands of lines of code to determine before and after differences, without the respective *rationales* spelled out, any deliberations concerning the revision will be inscrutable.

Finally, EPA conspicuously does not claim that there actually has been any substantive, policy-driven revision between the OMEGA v.1.4.56 and v.1.4.59 core models that potentially could be extrapolated from the withheld records. EPA asserts only (Mem. 4) that disclosure of the v.1.4.59 core model “would reveal whether or not substantive analytical changes have been made.”⁶ But the lone hypothetical change posited by EPA—creation of a new “consumer choice” model, Wehrum Decl. ¶ 18—underscores why the agency’s explanation is not the “reasonably detailed” one that FOIA requires, *Florez*, 829 F.3d at 182. EPA developed a dormant consumer-choice model for OMEGA years ago, *see supra*, pages 7-8, a fact of which the current Assistant Administrator appears unaware—reinforcing that he has not engaged with the internal workings of the OMEGA model. The input files that EPA has disclosed to Plaintiffs for v.1.4.59 (without asserting deliberative-process privilege) indicate that the consumer-choice model is still turned “off,” Cooke Decl. ¶ 14, so EPA already has “revealed ... that [it] did not add such a feature” to OMEGA v.1.4.59, Wehrum Decl. ¶ 19. *See also* Cooke Decl. ¶ 15-16.

* * *

⁶ EPA also vaguely states (Mem. 4) that the “model” has been updated “in various ways,” but, as before, the agency fails to distinguish among the different model components. Specifically, EPA is conspicuously vague about the extent to which those “various” updates were made to the core model, or, more likely given their prominence in the function of OMEGA and susceptibility to change, the input data and processors that EPA has not argued are deliberative material.

The OMEGA v.1.4.59 core model is a computational tool—a basic accounting program. The core model is programmed in computer code and does not contain any subjective “advisory opinions, recommendations [or] deliberations.” *Klamath*, 532 U.S. at 8. Release of this version of the core model will not reveal the subjective judgments of policymakers, any more than past versions have. The OMEGA v.1.4.59 core model is thus not *deliberative* and must be released.

3. The OMEGA v.1.4.59 core model is not “predecisional.”

To qualify as “predecisional” for Exemption 5 purposes, a *memorandum or letter* must be “prepared in order to assist an agency decisionmaker in arriving at [its] decision.” *Renegotiation Bd. v. Grumman Aircraft Eng’g Corp.*, 421 U.S. 168, 184 (1975). “Although an agency need not ‘pinpoint’ an exact decision made in reliance on the [withheld record], it must show, *ex ante*, that the document ‘related to a specific decision facing the agency.’” *Fox News Network, LLC v. U.S. Dep’t of the Treasury*, 911 F. Supp. 2d 261, 272 (S.D.N.Y. 2012). EPA wrongly contends (Mem. 10) that OMEGA v.1.4.59 is predecisional because it “was prepared” for “EPA’s decisionmaking concerning” the “future final versions of OMEGA” and “broader regulation of auto emissions.”

OMEGA v.1.4.59 does not qualify as predecisional merely because EPA plans to develop v.1.4.60. New versions of OMEGA are not “decisions” with legal effect; rather, the model is (or should be) used to inform such decisions. Outside the rare case where the record in question is a draft decision document, the bare possibility that a record may be revised at some point does not make it predecisional. EPA must identify a *decision* related to and predated by OMEGA v.1.4.59.

EPA’s “broader regulation of auto emissions” (Mem. 10) does not count. There is only one “specific decision” on that topic “facing the agency” in the foreseeable future, *Tigue*, 312 F.3d at 80: Whether to modify greenhouse-gas standards for light-duty vehicles of model years 2021-2025 and what standards to establish for model year 2026. *See* Pls. Mem. 8-11. EPA officials now have

disavowed reliance on the OMEGA model as a source of information for that decision. Wehrum Decl. ¶ 8; Charmley Decl. ¶ 18. Those disavowals fatally undermine EPA's position that OMEGA v.1.4.59 is predecisional. Because the agency is on record that it is not relying on the model or the information that it generates, there is no risk that releasing the current version would prematurely disclose policy or confuse the public as to the grounds for EPA's decision. *See* Pls. Mem. 22-23.

EPA resorts (Mem. 11) to speculation that it might change course in the future and decide to use whatever version of OMEGA is then current to inform its decision on the appropriate level of greenhouse-gas emission standards. But that conclusory assertion, *see* Wehrum Decl. ¶ 9, does not carry the agency's burden to establish that Exemption 5 applies to OMEGA v.1.4.59. Nothing in EPA's declarations, moreover, demonstrates that it is "reasonably foresee[able]" that disclosure of a 2018 version of OMEGA will "harm" EPA's eventual decisionmaking processes for emission standards for vehicles of model year 2027 and beyond. 5 U.S.C. § 552(a)(8)(A)(i)(I).

The agency is trying to have it both ways. To bolster its argument that the OMEGA model is *deliberative*, EPA claims (Mem. 3, 12) that it "is in a continuing process" involving "monthly or even weekly updates" to the model. But then, in support of its argument that OMEGA v.1.4.59 is *predecisional*, EPA speculates (Mem. 11) that disclosing a 2018 version of the model will hinder its decision on the level of emission standards that will apply to vehicles manufactured nearly a decade later, as part of a rulemaking that EPA will commence at some unknown date years from now. Either this latest version of OMEGA will be operative far longer than the agency posits, or else that version will be so overtaken by serial updates as to be irrelevant to EPA's decisionmaking process in the next round of greenhouse-gas emission standards for light-duty vehicles. Whatever the case, EPA has not shown that OMEGA v.1.4.59 is subject to the deliberative-process privilege.

C. Even if Exemption 5 applies to portions of the OMEGA v.1.4.59 core model, EPA still is withholding agency records in violation of FOIA.

For reasons just stated, Exemption 5 does not apply to any record that EPA is withholding. But, if this Court were to conclude otherwise, it still should order the agency to disclose records because (1) EPA has not identified a reasonably foreseeable harm that will ensue from disclosure, and (2) the executable OMEGA v.1.4.59 program is reasonably segregable from its source code.

1. EPA has not shown foreseeable harm from disclosure of the OMEGA v.1.4.59 core model.

The FOIA Improvement Act of 2016 requires an agency to “release a record—even if it falls within a FOIA exemption—if releasing the record would not reasonably harm an exemption-protected interest.” *Rosenberg v. U.S. Dep’t of Def.*, 342 F. Supp. 3d 62, 73 (D.D.C. 2018) (discussing 5 U.S.C. § 552(a)(8)(A)). Beyond its conclusory assertion that release of OMEGA v.1.4.59 would harm future agency deliberations, Wehrum Decl. ¶ 21, EPA does not substantiate its claim that providing public access to the core model will in fact foreseeably harm the quality of agency decision-making.

Moreover, as discussed earlier, EPA nowhere asserts that there *has* been any substantive, policy-driven revision to the OMEGA core model between the last public release (v.1.4.56 in July 2016) and the latest version (v.1.4.59, in place no later than April 2018). EPA speculates (Mem. 12) that releasing the v.1.4.59 core model would reveal deliberation by disclosing *whether* significant changes have been made, but Plaintiffs already have explained why that reasoning is flawed. *See supra*, page 7. If no substantive, policy-driven changes have in fact been made in the v.1.4.59 core model as compared to the most recent published version, disclosure of the v.1.4.59 core model cannot “foresee[ably] ... harm an[y] interest” of EPA that is protected by Exemption 5. 5 U.S.C. § 552(a)(8)(A).

2. The executable package for the OMEGA core model is reasonably segregable from the source code.

Even if this Court were to determine that EPA has properly withheld some portions of the OMEGA v.1.4.59 core model, the agency still would need to disclose any reasonably segregable records that are not “memorandums or letters”; are not “deliberative”; or are not “predecisional.” EPA asserts (Mem. 23) that it disclosed all reasonably segregated, non-exempt records, including “the OMEGA input files, pre-processors, and post-processors compatible with version 1.4.59,” but excluding the “full” core model. Plaintiffs appreciate EPA’s admission that many other elements of OMEGA could not be withheld, but the agency has failed to show why all core-model records must be withheld. Specifically, EPA does not distinguish between the uncompiled source code and the executable package for the OMEGA core model, both of which the agency is withholding.

EPA’s brief and supporting declarations address only the source code. *See* Wehrum Decl. ¶ 2 (stating “the basis for withholding the source code”); Charmley Decl. ¶ 23 (wrongly equating OMEGA “Installation Files” requested by Plaintiffs with “source code”). But the source code must “be compiled into machine code before it can be executed by a computer.” *Drone Techs., Inc. v. Parrot S.A.*, 838 F.3d 1283, 1289 n.2 (Fed. Cir. 2016). *See* Cooke Decl. ¶ 7. Once compiled, the executable package of the OMEGA core model can be installed and run by a user. *See id.* ¶¶ 7-8.

The underlying computer code of the executable package is unintelligible to humans, even programmers who wrote the source code. *See* Cooke Decl. ¶ 7. The executable package is thus a quintessential example of a *record* that is a non-deliberative *memorandum or letter*. *See supra*, pages 3-5. Because the executable package is reasonably segregable from the other records that EPA is withholding, this Court should order EPA to disclose the executable package even if the Court were to determine that Exemption 5 protects the source code for the OMEGA core model.

II. EXPEDITION OF THIS CASE IS WARRANTED.

Plaintiffs have shown (Mem. 24-25) “good cause” to expedite disposition of this case under the Civil Priorities Act, because they are asserting FOIA rights “in a factual context that indicates that a request for expedited consideration has merit.” 28 U.S.C. § 1657(a). EPA does not dispute that it is on the verge of finalizing a rule with momentous public-health consequences, or that its rulemaking turns on analysis of the precise question that the withheld records are meant to inform, namely, the “period ... necessary to permit development and application of [emissions-reduction] technology, giving appropriate consideration to the cost of compliance.” 42 U.S.C. § 7521(a)(2). That Plaintiffs may “request that EPA reconsider any decision” after it issues, Def. Mem. 25, does not lessen their urgent need for disclosure of the records, because any reconsideration proceeding “shall not postpone the effectiveness” of this highly damaging rule, 42 U.S.C. § 7607(d)(7)(B).

EPA wrongly suggests (Mem. 24-25) that Congress impliedly amended the Civil Priorities Act in 1996 by adding to FOIA a provision requiring agencies to issue regulations “providing for expedited” *administrative* “processing of requests for records.” 5 U.S.C. § 552(a)(6)(E)(i). There is no suggestion in the text or legislative history of that amendment that Congress meant to offer “guidance” to *courts* “concerning which FOIA matters deserve expedition.” Def. Mem. 25 n.12. *See generally Nat’l Assn of Home Builders v. Defenders of Wildlife*, 551 U.S. 644, 664 n.8 (2007) (observing that a later-enacted statute is strongly presumed not to impliedly repeal an earlier one). The Court should decline EPA’s invitation to transform a “liberally construed” standard for judicial expedition under the Civil Priorities Act, *Brennan Ctr. for Justice v. U.S. Dep’t of State*, 300 F. Supp. 3d 540, 547 (S.D.N.Y. 2018) (quoting H.R. Rep. No. 985, 98th Cong., 2d Sess. 6 (1984)), into a “narrowly applied,” Def. Mem. 24, standard for administrative expedition under FOIA. In any event, there is certainly an “urgency to inform the public concerning actual or alleged Federal

Government activity,” 5 U.S.C. § 552(a)(6)(E)(v)(II), *i.e.*, EPA’s effort to bury inconvenient facts that do not support its proposal to drastically weaken air-pollution standards, *see* Pls. Mem. 10-11.

EPA does not and cannot allege that it would be prejudiced by the expedition of a judicial decision. Plaintiffs are not asking the agency to expedite its own action; the agency already issued its final decision on their FOIA request. Plaintiffs request only that *this Court* expedite disposition of their motion for summary judgment. EPA has stipulated to a May 23, 2019, deadline for a reply in support of its cross-motion, JSR at 2, and, upon that filing, this case will be ripe for disposition with no further action required of the Executive Branch. The agency wants to delay disposition of Plaintiffs’ motion for the same reason that EPA delayed disposition of their FOIA request: to run out the clock so that the public will not be able to hold the government to account for its actions. But that is precisely the outcome that FOIA and the Civil Priorities Act were designed to avoid.

CONCLUSION

This Court should grant Plaintiffs summary judgment; deny EPA summary judgment; declare Exemption 5 inapplicable to the latest full version of the OMEGA model, including the OMEGA v.1.4.59 core model; and order EPA to produce the model on or before June 17, 2019.

Dated: May 13, 2019

Respectfully submitted,

/s/Pete Huffman

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Counsel for Environmental Defense Fund

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SUPPLEMENTAL DECLARATION OF MARGO OGE

I, Margo Oge, declare as follows:

1. I am aware that, on May 3, 2019, EPA filed a cross-motion for summary judgment and an opposition to the Plaintiffs' motion for summary judgment in the litigation over the FOIA request submitted by Environmental Defense Fund and Natural Resources Defense Council, seeking the current version of the OMEGA model. I have reviewed EPA's brief and the accompanying declarations of William Wehrum and William Charnley. Several of the statements in EPA's brief and in Mr. Wehrum's declaration, in particular, are not reflective of my experiences with the development and public release of four of the five OMEGA versions affirmatively published by the agency.

2. As I previously stated, from 1994 until my retirement in 2012, I served as the Director of the Office of Transportation and Air Quality ("OTAQ") of the Environmental Protection Agency ("EPA"). During my tenure, I authorized OTAQ technical staff to develop the OMEGA model. As mentioned in my previous declaration, I was not involved with the technical details and underpinnings of the OMEGA model. Based on my best recollection, when OTAQ staff briefed me on the results of various OMEGA iterations, the then-Assistant Administrator of the Office of Air and Radiation was not present.

3. Current EPA Assistant Administrator William Wehrum states in paragraph 11 of his declaration that "upper-level decisionmakers may work with technical staff on a longer timeline to make more substantive analytical changes to the core model." During my tenure as director of OTAQ, neither I nor the Assistant Administrator ever worked with technical staff to make "substantive analytical changes" to the core model. There were no "analytical choices internal to the OMEGA model itself made by ... policymakers," as Mr. Wehrum contends in

paragraph 12 of his declaration. The construction and modification of the core model was a task delegated entirely to OTAQ technical experts. OMEGA is an objective computational tool, so there was no reason for policymakers to be involved in its development.

EPA's Maintenance and Use of the OMEGA Model

4. The staff at OTAQ update or oversee updates to various components of the OMEGA model. OTAQ staff update the OMEGA model based on developments in the automotive sector, such as the creation and implementation of new technologies that the model accounts for. During my tenure as director of OTAQ, adjustments to the various components of OMEGA, including the core executable model, were not reviewed or approved by me or upper-level management at EPA.

5. The core executable model, which can be revised by changing its source code, was maintained and updated by OTAQ staff, or by contractors at the direction of OTAQ staff. When staff or contractors produced a new, functional version of the core executable model, they would assign a new version number to the core OMEGA model. When a new version was created, that version was as "final" until the next revision. There was no "give-and-take" consultation about the core model like that referenced in EPA's brief and Mr. Wehrum's declaration.

6. Although OTAQ staff regularly update different components of the OMEGA model, that does not render each version a "draft." When staff update the source code and produce a new executable edition of the core model, and apply a version number to that new model, that simply indicates that a version of the model is current and functional.

7. During my tenure as the director of OTAQ, I reviewed descriptions of the *results* of running the OMEGA model. As I stated previously: "*After* conducting model runs, EPA

employees would analyze the raw outputs of the model, decide on the key takeaways, and summarize selected model results in decision memos and briefings for policymakers.” OTAQ staff never briefed me or presented me with the actual core model or other technical components of the OMEGA model. I also am not aware of any policymaker or EPA staff outside of OTAQ who ever had occasion to review or comment on the core model.

8. I do not agree with Mr. Wehrum’s statement in paragraph 12 of his declaration that “the policy choices made throughout the regulatory development process are inextricably tied to the analytical choices internal to the OMEGA model itself made by those same policymakers.” First, the agency policymakers—the officials making decisions about regulatory development—did not make any decisions about the internal workings of the OMEGA model. As the Director of OTAQ, I did not use the OMEGA model, and I did not edit or alter or review the various components of the model. I did not have the core executable model installed on my computer, much less try to understand its mechanics. Second, I agree with Dr. Nicholas Lutsey that the OMEGA model itself does not make “analytical choices”—it is merely a “specialized calculator” that performs computations and produces data for use in future analysis.

9. I do not agree with Mr. Wehrum’s statement in paragraph 19 of his declaration that the fact whether the agency included a specific “analytical tool” in the OMEGA model, and “the outlines and parameters of any such hypothetical tool,” would in some way “reveal EPA’s pre-decisional thinking.” These statements are a mischaracterization of the OMEGA model, which is an objective computational tool.

EPA’s Releases of OMEGA

10. I was the Director of OTAQ when four of the five public versions of OMEGA were published. The first public version of the OMEGA model was released in 2009, and the

fourth public version was released in August 2012. During my tenure at EPA, there was no formal or informal policy to only release the OMEGA model when “the regulatory development process has become similarly final,” as Mr. Wehrum asserts in paragraph 13 of his declaration.

11. Rather, to be transparent, EPA would post on its website the current version of the OMEGA model when it was most likely that public stakeholders would utilize the model—for example, to inform public comments on a proposal—and EPA staff were empowered to share information about the model with stakeholders at all other times. There was also no process for scrubbing the OMEGA core model to prepare it for public release, or any approval process for the OMEGA model like the one referenced in paragraph 15 of Mr. Charmley’s declaration. Staff of OTAQ did not ask my permission to release the various versions of the OMEGA model.

12. In fact, the OMEGA model—including the core model at issue here—was published in conjunction with the *proposed* versions of the light-duty Phase 1 and Phase 2 rules, in order to invite public input and review. These versions explicitly were not “final” versions of OMEGA used to inform final agency decisions. Similarly, EPA identified the version of the OMEGA model that was released in 2016, version 1.4.56, as the “Draft TAR version” because it was published in conjunction with EPA’s Draft Technical Assessment Report.¹

13. As Dr. Nicholas Lutsey states in paragraph 27 of his declaration: “Based on information published in the current rulemaking docket, it appears that EPA staff ran the updated OMEGA model to estimate the impact of altering the MY 2021-2025 standards, and presented this estimate to the Office of Management and Budget.” Mr. Charmley acknowledges this in paragraph 19 of his declaration. I do not agree, however, with Mr. Charmley’s suggestion in

¹ EPA, Draft Technical Assessment Report: Mid-Term Evaluation of Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards for Model Years 2022-2025: Appendix C at C-1, EPA-420-D-16-900app (July 2016).

paragraphs 20 and 21 of his declaration that a version of the OMEGA model used by EPA staff to produce results that are shared outside the agency for “illustrative purposes” would not be considered a “complete” version of the model. In my experience, EPA would not present the results produced by a version of the OMEGA model if it did not consider that model to be materially complete.

14. I disagree with Mr. Wehrum’s statement in paragraph 21 of his declaration that the release of the OMEGA model would “chill free and open discussions of EPA staff regarding their opinions on the appropriate analytical tools to be included in the model.” As I previously stated, “[a]s OTAQ Director, I was never concerned about disclosure of the OMEGA model to the public harming the agency or its deliberative process. To the contrary, I expected that the model and the files needed to use it would continue to be released to the public, so that the model could continue to be refined using public comments.”

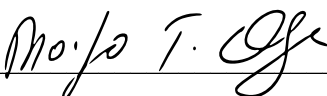
15. OTAQ staff and contractors never expressed any concern to me about release of OMEGA model versions chilling their development or discussion of the model. Everyone was aware that any new versions of OMEGA could be made available to the public for review and comment.² The release of the OMEGA model did not “chill free and open discussions of EPA staff regarding their opinions on the appropriate analytical tools to be included in the model.” In fact, the opposite happened. The transparency brought input from stakeholders that helped refine the model. These interactions contributed to public buy-in and support for the final greenhouse gas emission standards for model year 2012-2016 and 2017-2025 light-duty vehicles, across the stakeholders.

² See *OMEGA Core Model Version 1.4.56*, at 3, Doc. EPA-420-B-16-064 (July 2016).

16. During my tenure at EPA, OTAQ staff were permitted to communicate with the public about OMEGA and share information and components of the model beyond the releases of the OMEGA on the EPA website. I have reviewed email exchanges that occurred after my tenure as director of OTAQ, which indicate that this practice continued. *See Exhibit A.* In July and August 2016, during EPA's Mid-Term Evaluation of the light-duty vehicle greenhouse gas emission standards for model years 2022-2025, OTAQ staff communicated by email with stakeholders—including staff at the Auto Alliance, a major auto industry trade group—about the OMEGA model and its inputs. *See id.* In these informal communications, OTAQ staff shared insights and additional information about OMEGA, demonstrating the agency's commitment to and practice of transparency.

17. I have also reviewed a presentation given by Michael Olechiw, the Director of the Light-Duty Vehicle and Small Engine Center within OTAQ at EPA, to the Society of Automotive Engineers on January 25, 2018, where Mr. Olechiw described public comments on the OMEGA model (in particular, the ALPHA model, which is one of EPA's tools that generates inputs for the OMEGA model) and explained how OTAQ staff are working to respond to that feedback to improve the modeling tools. *See Exhibit B.* The practice of publicly sharing information with industry experts demonstrates the agency's commitment to and practice of transparency.

I declare under penalty of perjury that the foregoing is true and correct.



Margo Oge

Dated May 12, 2019

SUPPLEMENTAL DECLARATION OF MARGO OGE

EXHIBIT A

Records of Emails between EPA Staff and Stakeholders about the OMEGA Model

Source:

Records published by EPA, in response to Freedom of Information Act Request Number EPA-HQ-2018-007517 submitted by the Environmental Defense Fund,
<https://www.foiaonline.gov/foiaonline/action/public/submissionDetails?trackingNumber=EPA-HQ-2018-007517&type=request>

Message

From: Michael Hartrick [MHartrick@autoalliance.org]
Sent: 8/1/2016 6:56:42 PM
To: Olechiw, Michael [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=9f564b92ff96459ab606eb66e5892e2d-Olechiw, Michael]
CC: Cherry, Jeff [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=17c907940ac14cbab1236dfdfeca8300-Cherry, Jeff]; Charmley, William [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=fb1828fb00af42ffb68b9e0a71626d95-Charmley, William]; Bolon, Kevin [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=f7c0684aaef44174801c0406b51034d2-Bolon, Kevin]; Moran, Robin [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=cdc537a0f9d5433dae083bca681af983-Moran, Robin]; Kargul, John [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=57edb801d8d1408991163c50e4efa276-Kargul, John]; Silverman, Steven [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=2cabad28b2394fbda8c047cdc4ef3fdc-SSILVE02]; Barba, Daniel [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=ba2d819c3cae4c14a8446ed4a918a3c5-Barba, Daniel]; Chris Nevers [CNevers@autoalliance.org]
Subject: RE: ALPHA Model Inputs and Outputs Request

Thank you again, Mike. We will review and let you know if we have any questions. -Mike Hartrick

Sent from my Verizon 4G LTE smartphone

----- Original message -----

From: "Olechiw, Michael" <olechiw.michael@epa.gov>
Date: 8/1/16 2:01 PM (GMT-05:00)
To: Michael Hartrick <MHartrick@autoalliance.org>
Cc: "Cherry, Jeff" <Cherry.Jeff@epa.gov>, Bill Charmley <charmley.william@epa.gov>, "Bolon, Kevin" <Bolon.Kevin@epa.gov>, "Moran, Robin" <moran.robin@epa.gov>, "Kargul, John" <kargul.john@epa.gov>, "Silverman, Steven" <silverman.steven@epa.gov>, "Barba, Daniel" <Barba.Daniel@epa.gov>, Chris Nevers <CNevers@autoalliance.org>
Subject: RE: ALPHA Model Inputs and Outputs Request

Mike,

Thank you for your inquiry. While all of the information you requested has been available since July 18th, we can offer the following as clarification:

- * *There appear to only be ALPHA input files for midsize cars; we were unable to locate the information on other segments modeled.*
 - o Using ALPHA for the development of the Draft TAR, technologies in one vehicle (Standard Car) were used to derive the necessary data to calibrate the Lumped Parameter Model. The definitions of the vehicle classes remain the same as in the 2012 FRM for the LD 2017-2025 GHG rule, and still remain reasonable for the Draft TAR. In the Draft TAR, the changes for individual technology effectiveness values in the Lumped Parameter Model were applied to the calculations for all vehicle classes.

- *It appears only a portion of the input assumptions requested are available. See the attached file for our evaluation of the data requested vs. that which was identifiable in the sites referenced.*
 - All of the input assumptions that you identified are already publicly available, as delineated in the attached spreadsheet. These parameters are available within the "config_X_workspace.txt" files for each of the 12 configurations, as indicated in the readme.txt file. In the materials we posted on July 18th, we made every effort to be as clear as possible by clearly labeling variable names, and by providing a plaintext, human-readable version of the Matlab workspace so stakeholders could easily check the assumptions that went into the ALPHA modeling runs.
- *Regarding the lumped parameter model, I was unable to locate any input or output files associated with the model. I also note that only an executable version is available, preventing us from examining the coding and assumptions contained within the model.*
 - All of the lumped parameter model inputs, outputs, and source code are located on the OMEGA webpage: <https://www3.epa.gov/otaq/climate/models.htm>

Best Regards,

Mike

Michael R. Olechiw

Director - Light-duty Vehicles and Small Engines Center

USEPA/OTAQ/ASD

2000 Traverwood Drive

Ann Arbor MI 48105

Tel: +1-734-214-4297

Mobile: +1-734-546-8079

Fax: +1-734-214-4050

olechiw.michael@epa.gov

From: Michael Hartrick [mailto:MHarttrick@autoalliance.org]

Sent: Wednesday, July 27, 2016 5:25 PM

To: Olechiw, Michael <olechiw.michael@epa.gov>

Cc: Cherry, Jeff <Cherry.Jeff@epa.gov>; Charmley, William <charmley.william@epa.gov>; Bolon, Kevin <Bolon.Kevin@epa.gov>; Moran, Robin <moran.robin@epa.gov>; Kargul, John <kargul.john@epa.gov>; Silverman, Steven <silverman.steven@epa.gov>; Barba, Daniel <Barba.Daniel@epa.gov>; Chris Nevers <CNevers@autoalliance.org>

Subject: RE: ALPHA Model Inputs and Outputs Request

Mike,

Thanks for the quick response. We've taken a look at the sites and dockets that you reference. It is still not clear that these sites have the information requested. For example:

- There appear to only be ALPHA input files for midsize cars; we were unable to locate the information on other segments modeled.
- It appears only a portion of the input assumptions requested are available. See the attached file for our evaluation of the data requested vs. that which was identifiable in the sites referenced.
- Regarding the lumped parameter model, I was unable to locate any input or output files associated with the model. I also note that only an executable version is available, preventing us from examining the coding and assumptions contained within the model.

Perhaps it is my own and my contractor's lack of familiarity with the files that makes it appear that all of the data requested isn't present, when in fact it may be. We would be happy to meet with you and your staff if you believe it would help us to resolve this matter in a more expeditious manner.

Mike Hartrick
Director of Fuel Economy and Climate
Alliance of Automobile Manufacturers
Desk (248) 357-4717 x103
Mobile (248) 212-3590
MHartrick@autoalliance.org

From: Olechiw, Michael [<mailto:olechiw.michael@epa.gov>]
Sent: Monday, July 25, 2016 12:47 PM
To: Michael Hartrick
Cc: Cherry, Jeff; Bill Charmley; Bolon, Kevin; Moran, Robin; Kargul, John; Silverman, Steven; Barba, Daniel
Subject: RE: ALPHA Model Inputs and Outputs Request

Michael,

Thank you for your inquiry regarding EPA's ALPHA model as it relates to the Midterm Evaluation Draft TAR. To meet the commitments EPA made in the DTAR regarding transparency, we posted the ALPHA model, the LPM and DTAR ALPHA runs on our website on July 18th, the same day that the DTAR was released. (The links are provided below.)

If you have any further questions, please let me know.

Best Regards,

Mike

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ALPHA and LPM Links:

1. The ALPHA model is written in standard MATLAB/Simulink/Stateflow (no additional toolboxes are required) and the dedicated webpage is located here:

<https://www3.epa.gov/otaq/climate/alpha.htm>

- In the "ALPHA v2.0 Simulation Samples" section you will find twelve complete ready to run ALPHA models. These models contain the MATLAB workspace, ALPHA Simulink source diagrams, engine maps, transmission maps, and other data used in the Draft TAR analysis.
- The "readme.txt" file explains the installation and execution process within a standard MATLAB/Simulink/Stateflow 2014A environment.
- The "standard_car_lpm_matrix_results_2016_07_14_15_52.csv" file is a summary of the inputs and outputs of the twelve models. The summary outputs include cycle CO₂ and performance results.

2. Additional information available on the ALPHA (<https://www3.epa.gov/otaq/climate/alpha.htm>) and Data Testing (<https://www3.epa.gov/otaq/climate/data-testing.htm>) webpages:
 - Reference publications and SAE papers for the development and validation of the ALPHA model
 - Benchmarking information
 - Engine mapping process
3. Additional information in the federal docket:
 - EPA-HQ-OAR-2015-0827-0899 is a memo containing the docket locations for several engine and transmission benchmarking projects
4. Link to the Lumped Parameter Model webpage (<https://www3.epa.gov/otaq/climate/lpm.htm>)

From: Michael Hartrick [<mailto:MHartrick@autoalliance.org>]

Sent: Friday, July 22, 2016 9:43 AM

To: Olechiw, Michael <olechiw.michael@epa.gov>; Barba, Daniel <Barba.Daniel@epa.gov>

Subject: ALPHA Model Inputs and Outputs Request

Mike and Dan,

Throughout the Draft Technical Assessment Report the agencies discuss how the mid-term evaluation is intended to be, among other things, a transparent process. Specific to the ALPHA model, EPA states, "using ALPHA improves the transparency of the process," (TAR 5-246) and that "EPA developed an in-house vehicle simulation model that could freely be released to the public." (TAR 5-256)

The Alliance of Automobile Manufacturers respectfully requests that you make the following data publicly available as soon as possible such that adequate time for review and response is provided prior to the close of the TAR comment period:

1. The executable version of the ALPHA model used to inform the TAR.
2. The source code for the version of the ALPHA model used to inform the TAR.
3. All ALPHA model inputs for each vehicle simulated that informed the central analysis of the TAR including:
 - a. Vehicle weight
 - b. Road load information
 - c. Powertrain type
 - d. Engine displacement
 - e. Number of engine cylinders
 - f. Aspiration method
 - g. Boost pressure
 - h. Compression ratio
 - i. Fuel injection type
 - j. Valve timing system
 - k. Valve lift system
 - l. Presence of cylinder deactivation system
 - m. Presence of lean operation (if any)

- n. Presence of high expansion ratio (e.g. Atkinson)
 - o. Engine stop-start system presence
 - p. Assumptions for the operation of the stop-start system
 - q. Engine idle speed
 - r. Hybrid type, if applicable
 - s. Off-board charge capability
 - t. Traction motor size
 - u. Generator size
 - v. Traction battery capacity
 - w. Transmission type
 - x. Transmission step ratios
 - y. Launch device (e.g. clutch, torque converter, other)
 - z. Driveline (FWD, RWD, AWD, 4WD)
 - aa. Secondary axle disconnect
 - bb. Tire and wheel size
 - cc. Overall ratios for transmission and final drive
 - dd. Electrical load assumptions
 - ee. Accessory load assumptions
 - ff. Fuel properties including LHV, mass density, carbon density, and octane
4. ALPHA model outputs associated with each set of inputs including:
- a. City fuel consumption
 - b. Highway fuel consumption
 - c. City CO2
 - d. Highway CO2
 - e. Vehicle performance (time to speed and passing)

Please let me know when you make the above publicly available and provide a link to its location. If for some reason you do not intend to make this data available in a reasonable timeframe for public review and comment in association with the draft TAR, please let me know this and your reasoning for not permitting such review as soon as possible.

Thank you for your time and consideration.

Sincerely,

Michael Hartrick
Director of Fuel Economy and Climate
Alliance of Automobile Manufacturers

Desk (248) 357-4717 x103
Mobile (248) 212-3590
MHartrick@autoalliance.org

Message

From: Olechwi, Michael [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=9F564B92FF96459AB606EB66E5892E2D-OLECHIW, MICHAEL]
Sent: 8/1/2016 6:01:05 PM
To: Michael Hartrick [MHartrick@autoalliance.org]
CC: Cherry, Jeff [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=17c907940ac14cbab1236dfdfeca8300-Cherry, Jeff]; Charmley, William [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=fb1828fb00af42ffb68b9e0a71626d95-Charmley, William]; Bolon, Kevin [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=f7c0684aaef44174801c0406b51034d2-Bolon, Kevin]; Moran, Robin [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=cdc537a0f9d5433dae083bca681af983-Moran, Robin]; Kargul, John [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=57edb801d8d1408991163c50e4efa276-Kargul, John]; Silverman, Steven [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=2cabad28b2394fbda8c047cdc4ef3fdc-SSILVE02]; Barba, Daniel [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=ba2d819c3cae4c14a8446ed4a918a3c5-Barba, Daniel]; Chris Nevers [CNevers@autoalliance.org]
Subject: RE: ALPHA Model Inputs and Outputs Request
Attachments: Catalog of available data (ALPHA) 08 01 2016a.xlsx

Mike,

Thank you for your inquiry. While all of the information you requested has been available since July 18th, we can offer the following as clarification:

- *There appear to only be ALPHA input files for midsize cars; we were unable to locate the information on other segments modeled.*
 - Using ALPHA for the development of the Draft TAR, technologies in one vehicle (Standard Car) were used to derive the necessary data to calibrate the Lumped Parameter Model. The definitions of the vehicle classes remain the same as in the 2012 FRM for the LD 2017-2025 GHG rule, and still remain reasonable for the Draft TAR. In the Draft TAR, the changes for individual technology effectiveness values in the Lumped Parameter Model were applied to the calculations for all vehicle classes.
- *It appears only a portion of the input assumptions requested are available. See the attached file for our evaluation of the data requested vs. that which was identifiable in the sites referenced.*
 - All of the input assumptions that you identified are already publicly available, as delineated in the attached spreadsheet. These parameters are available within the "config_X_workspace.txt" files for each of the 12 configurations, as indicated in the readme.txt file. In the materials we posted on July 18th, we made every effort to be as clear as possible by clearly labeling variable names, and by providing a plaintext, human-readable version of the Matlab workspace so stakeholders could easily check the assumptions that went into the ALPHA modeling runs.
- *Regarding the lumped parameter model, I was unable to locate any input or output files associated with the model. I also note that only an executable version is available, preventing us from examining the coding and assumptions contained within the model.*
 - All of the lumped parameter model inputs, outputs, and source code are located on the OMEGA webpage: <https://www3.epa.gov/otaq/climate/models.htm>

Best Regards,

Mike

Michael R. Olechiw

Director - Light-duty Vehicles and Small Engines Center
USEPA/OTAQ/ASD
2000 Traverwood Drive
Ann Arbor MI 48105
Tel: +1-734-214-4297
Mobile: +1-734-546-8079
Fax: +1-734-214-4050
olechiw.michael@epa.gov

From: Michael Hartrick [mailto:MHartrick@autoalliance.org]

Sent: Wednesday, July 27, 2016 5:25 PM

To: Olechiw, Michael <olechiw.michael@epa.gov>

Cc: Cherry, Jeff <Cherry.Jeff@epa.gov>; Charmley, William <charmley.william@epa.gov>; Bolon, Kevin <Bolon.Kevin@epa.gov>; Moran, Robin <moran.robin@epa.gov>; Kargul, John <kargul.john@epa.gov>; Silverman, Steven <silverman.steven@epa.gov>; Barba, Daniel <Barba.Daniel@epa.gov>; Chris Nevers <CNevers@autoalliance.org>

Subject: RE: ALPHA Model Inputs and Outputs Request

Mike,

Thanks for the quick response. We've taken a look at the sites and dockets that you reference. It is still not clear that these sites have the information requested. For example:

- There appear to only be ALPHA input files for midsize cars; we were unable to locate the information on other segments modeled.
- It appears only a portion of the input assumptions requested are available. See the attached file for our evaluation of the data requested vs. that which was identifiable in the sites referenced.
- Regarding the lumped parameter model, I was unable to locate any input or output files associated with the model. I also note that only an executable version is available, preventing us from examining the coding and assumptions contained within the model.

Perhaps it is my own and my contractor's lack of familiarity with the files that makes it appear that all of the data requested isn't present, when in fact it may be. We would be happy to meet with you and your staff if you believe it would help us to resolve this matter in a more expeditious manner.

Mike Hartrick
Director of Fuel Economy and Climate
Alliance of Automobile Manufacturers
Desk (248) 357-4717 x103
Mobile (248) 212-3590
MHartrick@autoalliance.org

From: Olechiw, Michael [mailto:olechiw.michael@epa.gov]

Sent: Monday, July 25, 2016 12:47 PM

To: Michael Hartrick

Cc: Cherry, Jeff; Bill Charmley; Bolon, Kevin; Moran, Robin; Kargul, John; Silverman, Steven; Barba, Daniel

Subject: RE: ALPHA Model Inputs and Outputs Request

Michael,

Thank you for your inquiry regarding EPA's ALPHA model as it relates to the Midterm Evaluation Draft TAR. To meet the commitments EPA made in the DTAR regarding transparency, we posted the ALPHA model, the LPM and DTAR ALPHA runs on our website on July 18th, the same day that the DTAR was released. (The links are provided below.)

If you have any further questions, please let me know.

Best Regards,

Mike

Michael R. Olechiw

Director - Light-duty Vehicles and Small Engines Center

USEPA/OTAQ/ASD

2000 Traverwood Drive

Ann Arbor MI 48105

Tel: +1-734-214-4297

Mobile: +1-734-546-8079

Fax: +1-734-214-4050

olechiw.michael@epa.gov

ALPHA and LPM Links:

1. The ALPHA model is written in standard MATLAB/Simulink/Stateflow (no additional toolboxes are required) and the dedicated webpage is located here:

<https://www3.epa.gov/otaq/climate/alpha.htm>

- In the "ALPHA v2.0 Simulation Samples" section you will find twelve complete ready to run ALPHA models. These models contain the MATLAB workspace, ALPHA Simulink source diagrams, engine maps, transmission maps, and other data used in the Draft TAR analysis.
- The "readme.txt" file explains the installation and execution process within a standard MATLAB/Simulink/Stateflow 2014A environment.
- The "standard_car_lpm_matrix_results_2016_07_14_15_52.csv" file is a summary of the inputs and outputs of the twelve models. The summary outputs include cycle CO₂ and performance results.

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4. Link to the Lumped Parameter Model webpage (<https://www3.epa.gov/otaq/climate/lpm.htm>)

From: Michael Hartrick [<mailto:MHarttrick@autoalliance.org>]

Sent: Friday, July 22, 2016 9:43 AM

To: Olechiw, Michael <olechiw.michael@epa.gov>; Barba, Daniel <Barba.Daniel@epa.gov>

Subject: ALPHA Model Inputs and Outputs Request

Mike and Dan,

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Thank you for your time and consideration.

Sincerely,

Michael Hartrick
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Alliance of Automobile Manufacturers

Desk (248) 357-4717 x103
Mobile (248) 212-3590
MHartrick@autoalliance.org

Message

From: Sherwood, Todd [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=F6A5D8DECF654CE99B5DE0923CCFF361-SHERWOOD, TODD]
Sent: 8/11/2016 8:52:03 PM
To: Dennis F. Kahlbaum [kbomb@umich.edu]
CC: Olechiw, Michael [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=9f564b92ff96459ab606eb66e5892e2d-Olechiw, Michael]; Bolon, Kevin [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=f7c0684aaef44174801c0406b51034d2-Bolon, Kevin]
Subject: RE: TechnologyTracking File

I think you're looking at rpe_aeoR, Ref_in2025. That's what I used here.

The Tech file is still controlling the sequencing, or stepping thru of techpacks. Remember that the TechPackSales.log shows the techpack usage on Platform 1003, not the techpack usage of individual vehicles mapped to that platform. So your second table is not really correct since you're applying those platform percentages to each individual vehicle.

Vehicle 23, being an HEV, stays an HEV despite having techpacks 1-24 made available to it. This is controlled by the Machine which generates the TEBs/CEBs/OEBs and Tech codes shown in your 3rd table. Those tech codes are used for tech tracking on individual vehicles. OMEGA does not use these in the compliance determination algorithms since OMEGA works on platforms for that task with the platform being a sales-weighted amalgamation of vehicles mapped into that platform. In the Machine, the main algorithm compares vehicle engine techs to package engine techs, determines which are better, then either ignores the package or adds to the vehicle the techs that make it package better. It then does this for trans techs, and for electrification techs and for road load techs. I would need Jeff Cherry to explain any more or what I may have wrong in that simple description. Veh 23, being an HEV, is already awfully good so the Machine doesn't see much reason to do much to it. Therefore, the tech codes don't show much other than some WR techs. But that's an input to OMEGA generated by the Machine. OMEGA uses the Tech file applied to platforms to make decisions about compliance (so OMEGA doesn't use the Tech file on Veh 23, only on platform 1003), then OMEGA uses the tech codes to disaggregate on a vehicle level so that we can generate more meaningful techpen data. Looking at the TechTracking file for Veh 23 and comparing to what was on the baseline vehicle, all it has done is add some WR (it had 3% in the baseline). Notice how the Tech code data in the Market file starts with package 0 (the baseline vehicle) while the TEB/CEB/OEB data starts with package 1. OMEGA needs package 0 so that it can disaggregate by vehicle.

If that fails to help, let me know.

From: Dennis F. Kahlbaum [mailto:kbomb@umich.edu]
Sent: Thursday, August 11, 2016 9:08 AM
To: Sherwood, Todd <sherwood.todd@epa.gov>
Subject: Re: TechnologyTracking File

Hi Todd:

According to your Item 5, the Technology file provides the tech pathways that are applied. However, what happens when vehicles start with and use different technologies that have the same Tech Pack Number?

For example, from the Market file:

Platform	Vehicle			Vehicle	Fleet	Classic	Vehicle	CVCM		Baseline	Baseline	Annual
Index	Index	Manufacturer	Model	Type	Type	Fleet	Safety	Class	EPA Class	Price	Sales	Sales
No	No			No		Type	Class			- Cycle1		

1003	21	Volkswagen	Q5 2.0T	8	T	T	CM		Small SUV 4WD		75958	- Cycle 1 75958
1003	23	Volkswagen	Q5 Hybrid	8	T	T	CM		Small SUV 4WD		1101	1101

Note that Vehicle # 23 is a Hybrid.

According to the TechPackSales file, both of these vehicles use the following Tech Packs (sales have been converted to percents):

Platform Index No	Vehicle Index No	TP14	TP19	TP20	TP21	TP22	TP23	TP24
1003	21	10.00%	10.00%	5.00%	5.00%	40.00%	25.00%	5.00%
1003	23	10.00%	10.00%	5.00%	5.00%	40.00%	25.00%	5.00%

According to the Market file, the technologies used by these vehicles are significantly different but have the same Tech Pack Number:

TP#	Vehicle Index No 21
TECH 14	LUB EFR1 I4 VVT VVLTD-OHC-I4 DI TURB18 TRX22 Stop-Start IACC1 EPS Aero1 LRRT2 LDB SAX-NA WRtech- 10 WRpen- 0 WRnet- 10
TECH 19	EFR2 I4 VVT VVLTD-OHC-I4 DI TURB18 TRX22 MHEV48V IACC2 EPS Aero2 LRRT2 LDB SAX-NA WRtech- 5 WRpen- 2.5 WRnet- 2.5
TECH 20	EFR2 I4 VVT VVLTD-OHC-I4 DI TURB18 TRX21 Stop-Start IACC2 EPS Aero2 LRRT2 LDB SAX-NA WRtech- 5 WRpen- 0 WRnet- 5
TECH 21	EFR2 I4 VVT VVLTD-OHC-I4 DI TURB18 TRX22 Stop-Start IACC1 EPS Aero1 LRRT2 LDB SAX-NA WRtech- 10 WRpen- 0 WRnet- 10
TECH 22	EFR2 I4 VVT VVLTD-OHC-I4 DI TURB18 TRX21 MHEV48V IACC2 EPS Aero2 LRRT2 LDB SAX-NA WRtech- 5 WRpen- 2.5 WRnet- 2.5
TECH 23	LUB EFR1 V6 VVT Deac-V6 EGR DI ATK2 TRX21 Stop-Start IACC2 EPS Aero2 LRRT1 LDB SAX-NA WRtech- 5 WRpen- 0 WRnet- 5
TECH 24	LUB EFR1 V6 VVT Deac-V6 EGR DI ATK2 TURBM TRX22 Stop-Start IACC1 EPS Aero1 LRRT2 LDB SAX-NA WRtech- 5 WRpen- 0 WRnet- 5

TP#	Vehicle Index No 23
TECH 14	LUB EFR1 I4 VVT VVLTD-OHC-I4 DI TURB18 TRX21 P2 IACC1 EPS LRRT1 SAX-NA WRtech- 10 WRpen- 7 WRnet- 3
TECH 19	LUB EFR1 I4 VVT VVLTD-OHC-I4 DI TURB18 TRX21 P2 IACC1 EPS LRRT1 SAX-NA WRtech- 5 WRpen- 2 WRnet- 3
TECH 20	LUB EFR1 I4 VVT VVLTD-OHC-I4 DI TURB18 TRX21 P2 IACC1 EPS LRRT1 SAX-NA WRtech- 5 WRpen- 2 WRnet- 3
TECH 21	LUB EFR1 I4 VVT VVLTD-OHC-I4 DI TURB18 TRX21 P2 IACC1 EPS LRRT1 SAX-NA WRtech- 10 WRpen- 7 WRnet- 3
TECH 22	LUB EFR1 I4 VVT VVLTD-OHC-I4 DI TURB18 TRX21 P2 IACC1 EPS LRRT1 SAX-NA WRtech- 5 WRpen- 2 WRnet- 3
TECH 23	LUB EFR1 I4 VVT VVLTD-OHC-I4 DI TURB18 TRX21 P2 IACC1 EPS LRRT1 SAX-NA WRtech- 5 WRpen- 2 WRnet- 3
TECH 24	LUB EFR1 I4 VVT VVLTD-OHC-I4 DI TURB18 TRX21 P2 IACC1 EPS LRRT1 SAX-NA WRtech- 5 WRpen- 2 WRnet- 3

Whereas Vehicle #21 uses a variety of technologies, Vehicle #23 uses the same technologies (but with different WRs).

The TechnologyTracking file data for these vehicles are shown below (all column with 0% have been removed to fit the page):

Manufac turer	Vehicle In	Vehicle T...	Platform	TRX21	TRX22	Aero1	Aero2	ATK2	Deac-V6	DI	EFR1	EFR2	EGR	EPS	I4
VOLKSWAGEN	21	8	1003	70.0%	30.0%	20.0%	80.0%	30.0%	30.0%	100.0%	40.0%	60.0%	30.0%	100.0%	70.0%
VOLKSWAGEN	23	8	1003	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%	0.0%	0.0%	100.0%	100.0%

Manufacturer	Vehicle in	Vehicle Type	Platform	LRRT1	LRRT2	LUB	MHEV48V	P2	SAX-NA	Stop-Start	TURB18	TURB1	V6	WLTD-OHC-14	WT
VOLKSWAGEN	21	8	1003	25.0%	75.0%	40.0%	50.0%	0.0%	100.0%	50.0%	70.0%	5.0%	30.0%	70.0%	100.0%
VOLKSWAGEN	23	8	1003	100.0%	0.0%	100.0%	0.0%	100.0%	100.0%	0.0%	100.0%	0.0%	0.0%	100.0%	100.0%

It is obvious that these values came from a merger of the TechPackSales file and vehicle-specific technologies from the Market file. (The percentages for Vehicle 21 correspond to those from the TechPackSales file and, since all of the technologies for Vehicle 23 are the same, they are at 100% (except for the WRs, as expected).)

Now then, the corresponding Tech Pack data for Vehicle Type 8 from the Technology file are shown below:

Vech. Type No.	Tech. Pkg. No.	Package Name	Cap
8	1	MPVt 4VDV6+LUB+EFR1+LRRT2+IACC1+EPS+Aero1+LDB+DCP+WR5%+TRX11	75%
8	2	MPVt 4VDV6+LUB+EFR1+LRRT1+IACC1+EPS+Aero1+LDB+DCP+WR5%+TRX11	100%
8	3	MPVt 4VDV6+LUB+EFR1+LRRT1+IACC1+EPS+Aero1+LDB+DCP+WR5%+TRX21	100%
8	4	MPVt 4VDV6+LUB+EFR1+LRRT2+IACC1+EPS+Aero1+LDB+DCP+WR5%+TRX21	73%
8	5	MPVt 4VDV6+LUB+EFR1+LRRT2+IACC1+EPS+Aero1+LDB+DCP+WR5%+TRX22	100%
8	6	MPVt 4VDV6+LUB+EFR1+LRRT2+IACC2+EPS+Aero2+LDB+DCP+WR5%+TRX21	100%
8	7	MPVt 4VDI4+LUB+EFR1+LRRT1+IACC1+EPS+Aero1+LDB+DCP+GDI+TDS18+WR5%+TRX21	100%
8	8	MPVt 4VDI4+LUB+EFR1+LRRT2+IACC1+EPS+Aero1+LDB+DCP+GDI+TDS18+WR5%+TRX22	100%
8	9	MPVt 4VDI4+LUB+EFR1+LRRT2+IACC2+EPS+Aero2+LDB+DCP+GDI+TDS18+WR5%+TRX21	100%
8	10	MPVt 4VDI4+LUB+EFR1+LRRT1+IACC2+EPS+Aero2+LDB+DCP+GDI+SS+TDS18+WR5%+TRX21	100%
8	11	MPVt 4VDV6+LUB+EFR1+LRRT1+IACC2+EPS+Aero2+LDB+DCP+Deac+GDI+ATK2+EGR+WR5%+TRX21	100%
8	12	MPVt 4VDI4+EFR2+LRRT2+IACC2+EPS+Aero2+LDB+DCP+GDI+SS+TDS18+WR5%+TRX21	100%
8	13	MPVt 4VDI4+EFR2+LRRT2+IACC2+EPS+Aero2+LDB+DCP+DVVL+GDI+MHEV48V+TDS18+WR5%+TRX21	91%
8	14	MPVt 4VDI4+LUB+EFR1+LRRT2+IACC1+EPS+Aero1+LDB+DCP+DVVL+GDI+SS+TDS18+WR10%+TRX22	100%
8	15	MPVt 4VDI4+EFR2+LRRT2+IACC1+EPS+Aero1+LDB+DCP+GDI+TDS24+EGR+WR5%+TRX22	25%
8	16	MPVt 4VDI4+EFR2+LRRT2+IACC2+EPS+Aero2+LDB+DCP+GDI+MHEV48V+TDS18+WR5%+TRX22	20%
8	17	MPVt 4VDV6+LUB+EFR1+LRRT1+IACC2+EPS+Aero2+LDB+DCP+Deac+GDI+SS+ATK2+EGR+WR5%+TRX21	100%
8	18	MPVt 4VDV6+LUB+EFR1+LRRT2+IACC1+EPS+Aero1+LDB+DCP+Deac+GDI+SS+ATK2+EGR+WR5%+TRX22	100%
8	19	MPVt 4VDI4+EFR2+LRRT2+IACC2+EPS+Aero2+LDB+DCP+DVVL+GDI+MHEV48V+TDS18+WR5%+TRX22	100%
8	20	MPVt 4VDI4+EFR2+LRRT2+IACC2+EPS+Aero2+LDB+DCP+DVVL+GDI+SS+TDS18+WR5%+TRX21	100%
8	21	MPVt 4VDI4+EFR2+LRRT2+IACC1+EPS+Aero1+LDB+DCP+DVVL+GDI+SS+SAX+TDS18+WR10%+TRX22	33%
8	22	MPVt 4VDI4+EFR2+LRRT2+IACC2+EPS+Aero2+LDB+DCP+DVVL+GDI+MHEV48V+SAX+TDS18+WR5%+TRX21	100%
8	23	MPVt 4VDV6+LUB+EFR1+LRRT1+IACC2+EPS+Aero2+LDB+DCP+Deac+GDI+SS+SAX+ATK2+EGR+WR5%+TRX21	100%
8	24	MPVt 4VDV6+LUB+EFR1+LRRT2+IACC1+EPS+Aero1+LDB+DCP+Deac+GDI+SS+ATK2+TURBM+EGR+WR5%+TRX22	100%

Clearly, the red-highlighted tech package descriptions only match* those for Vehicle 21. (*There are differences with the WRs, however.)

Therefore, please explain how the Technolog file is used for Vehicle 23.

Also, please explain how you should trace technologies in this situation. Since they match*, do the Vehicle 21 Technology file descriptions overrule those in the Market file (even though the TechnologyTracking file says otherwise)?

Thanks much for all your help!!

--Dennis

On 8/10/16 4:52 PM, Dennis F. Kahlbaum wrote:

OK. So always use the TechPackSales.log file when performing calculations of what actually happened. Correct?

On 8/10/16 4:18 PM, Sherwood, Todd wrote:

Oh, yes. The TechPackSF file shows what's allowed to happen, not what does happen. That's confusing. That file, essentially, shows the ranking results although it's calculated from data in the Tech file. You can see how the 40% techpack cap I mentioned in item 5 (below) was determined for the Tech file (by the ranking algorithm which generates the Tech file for OMEGA to then generate TechPackSF which is, obviously, redundant). Cell T15 shows a value of 10. Cell T11 shows a value of 15. Notice that cell S11 shows 25. So 40% of that 25 has moved from techpack 9 to techpack 13.

From: Dennis F. Kahlbaum [<mailto:kbomb@umich.edu>]
Sent: Wednesday, August 10, 2016 3:51 PM
To: Sherwood, Todd <sherwood.todd@epa.gov>
Subject: Re: TechnologyTracking File

Todd:

OK, so contrary to my last e-mail stating that I had answered all of my questions, your information proves that using the TechPackSales.log file is better than using the TechPackSF.xls, and other improvements.

Therefore, THANK YOU!

--Dennis

On 8/10/16 3:37 PM, Sherwood, Todd wrote:

Stream of consciousness reply, so might be scattered.

- 1) Keep in mind that "Ref_in2025b-vh1" is for the reference case in 2025, so it's not for the control case standards.
- 2) Col K in that file simply shows the last techpack used for vehicles mapped into that platform 1008. That doesn't mean every vehicle on that platform ended on techpack 16. Of more interest for the purpose of seeing what techpacks are applied is the TechPackSales.log file which shows that platform 1008 uses techpacks 12/13/14/16. The Tech file for that scenario shows those packages to be

Vech. Type No.	Tech. Pkg. No.	Package Name
3	12	Auto 4VDI4+LUB+EFR1+LRRT2+IACC1+EPS+Aero1+LDB+DCP+GDI+TDS24+EGR
3	13	Auto 4VDV6+LUB+EFR1+LRRT1+IACC2+EPS+Aero2+LDB+DCP+Deac+GDI+SS+A
3	14	Auto 4VDI4+EFR2+LRRT2+IACC2+EPS+Aero2+LDB+DCP+GDI+SS+TDS18+WR10
3	16	Auto 4VDI4+LUB+EFR1+LRRT1+IACC2+EPS+Aero2+LDB+DCP+GDI+SS+TDS18+

- 3) Keep in mind that not all of the models on that platform can get the WR shown in the techpack – the safety analysis limits the WR to several different levels for vehicles in that platform, including some that can't get any additional WR. Also, some have 1% WR in our baseline file.
- 4) The attached shows how the final CO2 of 194.55 would be calculated (remember to include off-cycle credits which are also included in the Market file).
- 5) As for the importance of the Tech input file, among other things it determines the ordering of techpacks – for platform 1008 (vehtype 3), techpack 12 would come from techpack 8, not 11. Then 13 would come from 9, 14 from 11 and 16 from 15. This is shown in col I of the Tech file. This ordering of techpacks is what the package ranking process is all about. Note also col E which shows the caps applied to techpacks – so techpack 13 could only take 40% from techpack 9.
- 6) As for the breakdown of the 70/30 percent split on trans techs for that platform, the info above makes that clear. 20% TP12/10% TP13 makes 30%. Same logic for 70%.
- 7) I'm not sure where you got 30% for ATK2. I see 10%. That 10% is getting techpack 13.
- 8) 45/55 percent for EFR techs are evident from above and the knowledge that 55% go to techpack 14 (from the TechPackSales.log and the attached).
- 9) Same with the aero techs – just 20% stay at techpack 12 with aero1.

Hopefully I have answered things. If not, let me know.

From: Dennis F. Kahlbaum [mailto:kbomb@umich.edu]
Sent: Wednesday, August 10, 2016 11:13 AM

To: Sherwood, Todd <sherwood.todd@epa.gov>

Subject: Re: TechnologyTracking File

Hi Todd:

I realize that yesterday's questions about the TechnologyTracking file were difficult to respond to. Therefore, here are similar but hopefully simpler questions:

1) In the "Ref_in2025b-vh1.xls" file, there is a "Last Tech Pack #" column (K). What exactly does this value mean?

For example, parts of the first 10 lines from that file are reproduced below:

Index No	Manufacturer	Model	Vehicle Type No	Vehicle Class	Baseline Sales	Annual Sales	Baseline CO2	Last Step
1008	BMW	BMW_1008_C_3	3	C	47,429	47,429	241.80	191
1009	BMW	BMW_1009_C_3	3	C	94,937	94,937	239.52	185
1010	BMW	BMW_1010_C_5	5	C	21,129	21,129	284.36	198
1011	BMW	BMW_1011_C_3	3	C	16,664	16,664	247.05	188
1012	BMW	BMW_1012_C_5	5	C	46,319	46,319	314.39	210
1013	BMW	BMW_1013_C_2	2	C	3,859	3,859	0.00	122
1014	BMW	BMW_1014_C_2	2	C	13,100	13,100	112.60	200
1015	BMW	BMW_1015_C_2	2	C	4,157	4,157	121.14	170
1016	BMW	BMW_1016_C_5	5	C	9,783	9,783	276.72	201
1017	BMW	BMW_1017_T_8	8	T	33,096	33,096	283.20	182

As shown in red, for Index No 1008, the Last Tech Pack # is "16". According to the Market file "Market_Ref_in2025B-rep_aeoR.xls", Platform Index No 1008 consists of 52 BMW "Class 3" vehicles, each with their own set of information, including TEBs, CEBs, OEBs, and Techs (numbered 1-50). Does that "16" mean that these 52 BMW vehicles each used their Techs associated with "Tech 16" (Column GU) to arrive at the "Final CO2" shown in the table above?

2) If the Techs in the Market file are being used, what is the purpose of the "Technology" files (e.g. "Technology_Ref_in2025B_rpe_aeoR.xls")?

Thanks.

--Dennis

On 8/9/16 12:05 PM, Dennis F. Kahlbaum wrote:

Hi Todd:

I need some more insight regarding the TechnologyTracking files. For the questions below, I referring to "Ref_in2025B-TechnologyTracking.xls".

In reviewing this file, I noticed that it has tabs for Vehicle and Vehicle Sales. The first 6 lines of both tabs shows data for BMW, Vehicle IDs 54 through 59. Upon reviewing the Market file, "Market_Ref_in2025B_rpe_aeoR.xls", I found that these 6 entries are all BMW 228i Coupes, divided into 2 groups: 3 with 4244 annual sales (Group 1), the other 3 with 441 annual sales (Group 2). The remaining data for each group contain only a few differences (footprint, etc). Also, each group contains 37 Tech descriptions.

My questions, again referring to just these 6 BMW entries, are as follows:

1) Where did the data come from that allowed OMEGA to generate the various percentages and sales in the "Vehicle" and "Vehicle Sales" tabs, respectively? A review of the "Technology_Ref_in2025B_rpe_aeoR.xls" files for Vehicle Class 3 didn't reveal such breakdowns or Caps. Reviews of the other input files didn't locate them either. As examples, where did these splits come from?:

BMW Group 1: 70%/30% split for
TXR21/TRX22
Both Groups: 30% for ATK2
Both Groups: 45%/55% for EFR1/EFR2
Both Groups: 20%/80% Aero1/Aero2

(Note: Since almost all of the percentages in the "Vehicle" tab are multiples of 5% or 10%, this indicates to me that an input file is being used, rather than computed values.)

2) What Tech Package(s) was/were actually used in the calculations for each of the 6 BMW Technology/Tracking entries? The file "Ref_in2025b-vh1.xls" says that the "Last Tech Pack #" was 16, but it is apparently referring to "Index No." 1008, which not only contains these 6 BMW entries, but many others.

3) Since the Market file contains 37 Tech descriptions, are they used in lieu of 37 Vehicle Class 3 Teck Packages listed in the file "Technology_Ref_in2025B_rpe_aeoR.xls"? Which "Last Tech Pack #" is OMEGA referring to (Market file, or Technology file)?

If it would be easier/quicker to discuss these questions over the phone, please call me at 973-3070.

Thanks much.

--Dennis

Message

From: Sherwood, Todd [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=F6A5D8DECF654CE99B5DE0923CCFF361-SHERWOOD, TODD]
Sent: 8/26/2016 3:06:44 PM
To: Cherry, Jeff [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=17c907940ac14cbab1236dfdfeca8300-Cherry, Jeff]; Bolon, Kevin [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=f7c0684aaef44174801c0406b51034d2-Bolon, Kevin]
Subject: FW: Curb Weights

Since this question is meant to support the Alliance efforts, I want to be sure about the response. Can you guys confirm which approach you see as our approach to determining the final curb weight (which, of course, we never calculate but we have the percent reductions).

Baseline curb wt	4079
Baseline WR	3%
Package WR	10%

OR	1) Final curb wt=	$4079 - (4079) * (10\% - 3\%)$	3793
	2) Final curb wt=	$[(4079) / (100\% - 3\%)] * (100\% - 10\%)$	3785

From: Dennis F. Kahlbaum [mailto:kbomb@umich.edu]
Sent: Friday, August 26, 2016 10:13 AM
To: Sherwood, Todd <sherwood.todd@epa.gov>
Subject: Re: Curb Weights

Hi Todd:

Thank you for the informative meeting yesterday!

As discussed, I am trying to fulfill the Alliance's request to compute the by-Vehicle, by-Technology-Package, Curb Weights. I have changed the processing so that the WRnet value provided in the Technology Package (TP) itself is now obtained and used, instead of the platform-based OMEGA value.

As an example, let's use our now-familiar VW Q5s (Vehicle IDs 21 (conventional) and 23 (hybrid)). The table below shows the relevant data, by vehicle and TP:

Vehicle Index	Model	Curb Weight (lb)	Tech Pckg	WRnet
21	Q5 2.0T	4,079	0	3.00%
21	Q5 2.0T	4,079	17	7.50%
21	Q5 2.0T	4,079	18	10.00%
21	Q5 2.0T	4,079	19	2.50%
23	Q5 Hybrid	4,431	0	3.00%
23	Q5 Hybrid	4,431	17	3.00%
23	Q5 Hybrid	4,431	18	3.00%

23	Q5 Hybrid	4,431	19	3.00%
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As I understand it, the Curb Weight value is applicable to TP0, and includes the WRnet reduction for TP0. (Hence, for Vehicle 21, the Curb Weight of 4,079 pounds already includes a 3.00% reduction.) Also, according to the documentation, WRnet values are relative to the "null" vehicle. Therefore, in order to compute the TP-specific Curb Weight, you need to remove the TP0 WRnet reduction to bring the Curb Weight to the "null" level, and then apply the WRnet reduction of the TP to this "null" level. In formula notation, this corresponds to:

$$\text{Curb Weight(TP\#)} = \text{Curb Weight} * (100\% - \text{WRnet\%}(\text{TP\#})) / (100\% - \text{WRnet\%}(\text{TP0}))$$

As an example, for Vehicle 21, Tech Package 18: $\text{Curb Weight(TP18)} = 4,079 * (100\% - 10.00\%) / (100\% - 3.00\%) = 3,785$.

The following table contains the results for all of the TPs:

Vehicle Index	Model	Curb Weight (lb)	Tech Pckg	Wrnet%	TP Curb Weight (lb)
21	Q5 2.0T	4,079	0	3.00%	4,079
21	Q5 2.0T	4,079	17	7.50%	3,890
21	Q5 2.0T	4,079	18	10.00%	3,785
21	Q5 2.0T	4,079	19	2.50%	4,100
23	Q5 Hybrid	4,431	0	3.00%	4,431
23	Q5 Hybrid	4,431	17	3.00%	4,431
23	Q5 Hybrid	4,431	18	3.00%	4,431
23	Q5 Hybrid	4,431	19	3.00%	4,431

Please advise if this is the correct methodology to use. If it is not, please explain how to proceed.

Thanks.

--Dennis

On 8/22/16 9:03 AM, Sherwood, Todd wrote:

You mean you want to calculate the "final" curb weights? You should be able to use the WRnet data matched with the Market file's baseline curb weight. Be sure to line things up by Vehicle index of course since the Market file and TechnologyTracking file may not be aligned the same way. The WRnet shows actual WRnet, not package WR. There are some glitches in the WR tracking for packages containing the P2 technology but there are not many in the baseline and OMEGA didn't create many either.

-----Original Message-----

From: Dennis F. Kahlbaum [mailto:kbomb@umich.edu]
 Sent: Friday, August 19, 2016 4:13 PM
 To: Sherwood, Todd <sherwood.todd@epa.gov>
 Subject: Curb Weights

Hi Todd:

Is there a way of computing the vehicle curb weights based on the by-TechPackage WRs in the TechnologyTracking files? A concern is that the TechPackage might indicate 5% mass reduction, but an overriding safety consideration might limit it to something less than that.

Thanks.

--Dennis

SUPPLEMENTAL DECLARATION OF MARGO OGE

EXHIBIT B

Presentation: End-to-End Use of ALPHA Vehicle Simulation in EPA's GHG Standards
Assessments: From Baseline to Future Fleets,
by Michael Olechiw, Light-Duty Vehicle and Small Engine Center Director, EPA
January 25, 2018

End-to-End Use of ALPHA Vehicle Simulation in EPA's GHG Standards Assessments: From Baseline to Future Fleets

SAE Government-Industry Meeting
January 25, 2018

Michael Olechiw
Light-duty Vehicle and Small Engine Center Director
U.S. Environmental Protection Agency



Overview

- Where are we?
 - Recent EPA initiatives
 - Stakeholder input
- EPA work on the assessment of technology effectiveness estimates
- End-to-End ALPHA Modeling
 - ALPHA, start – Simulation of Baseline Fleet
 - ALPHA, middle – Large scale simulation of possible future packages
 - ALPHA, end – Simulation of Future Fleet
- Conclusions

Consideration of New Data/Analysis since 2016 Proposed Determination

March 22, 2017 FR Notice from Administrator Pruitt - Announces EPA's plans to reconsider the January 2017 Final Determination, and to issue a new Final Determination by end of March, 2018, in accordance with EPA's regulations
EPA's regulations provide a specific list of technical information EPA will consider

Following the Administrator's March 22, 2017 FR Notice announcing that he would be reconsidering the Final Determination, the Administrator sent a letter (May 2, 2017) to California Governor Brown saying:

*"this reconsideration will be based on the **best available data** and part of a robust, timely and inclusive process"*

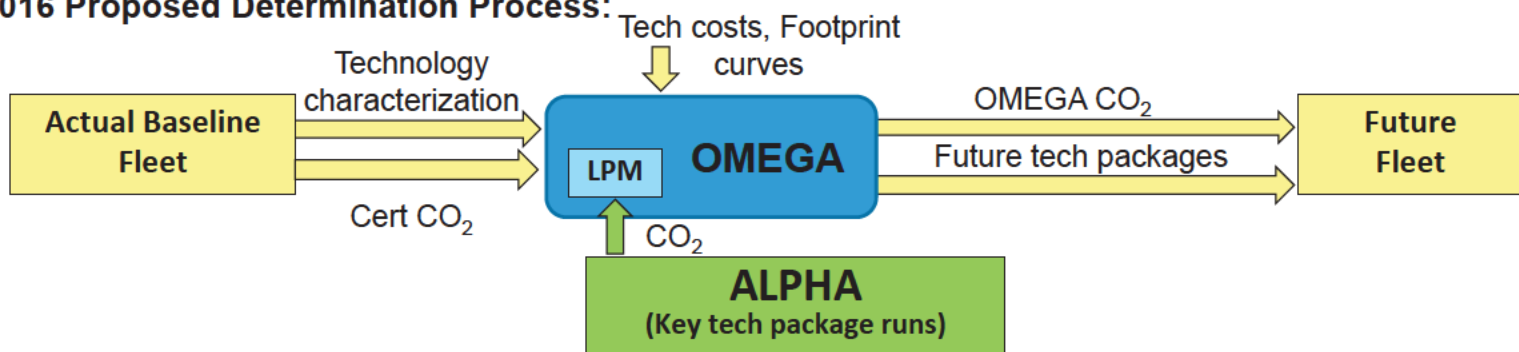
Administrator's August 21, 2017 FR Notice:

*"EPA is announcing that it is reconsidering whether the light-duty vehicle greenhouse gas standards previously established for model years 2022-2025 are appropriate under section 202(a) of the Clean Air Act and invites stakeholders to **submit any comments, data, and information they believe are relevant to the Administrator's reconsideration of the Final Determination and in particular, highlight any new information.**"*

*"This additional comment period provides an opportunity for commenters to submit to EPA **additional studies and other materials** as well as to complete the preparation of their comments, or **submit additional comments in light of newly available information.**"*

Stakeholder input on EPA's effectiveness modeling approach

2016 Proposed Determination Process:



Themes from Stakeholder Comments:

Comment: It is important to appropriately assess the level of technology in current vehicles

Comment: Methodologies for calibrating the Lumped Parameter Model (LPM) and generating tech package effectiveness values are not transparent

Comment: Uncertainty when applying tech effectiveness values for vehicle classes to individual vehicles

- The LPM 0-D modeling introduces uncertainty
- The modeled benefits of mass reduction should be consistent with the benefits in certification
- The OMEGA model output proliferates the number of engine displacements

Response to Stakeholder input on EPA's effectiveness modeling approach: Expanded application of ALPHA simulation

Expanded application of ALPHA simulation end-to-end throughout process, from baseline fleet to future fleet:

- Comment: It is important to appropriately assess the level of technology in current vehicles

Start

New: Refine technology characterization through simulation of individual baseline vehicles

- Comment: Methodologies for calibrating the Lumped Parameter Model (LPM) and generating tech package effectiveness values are not transparent

Middle

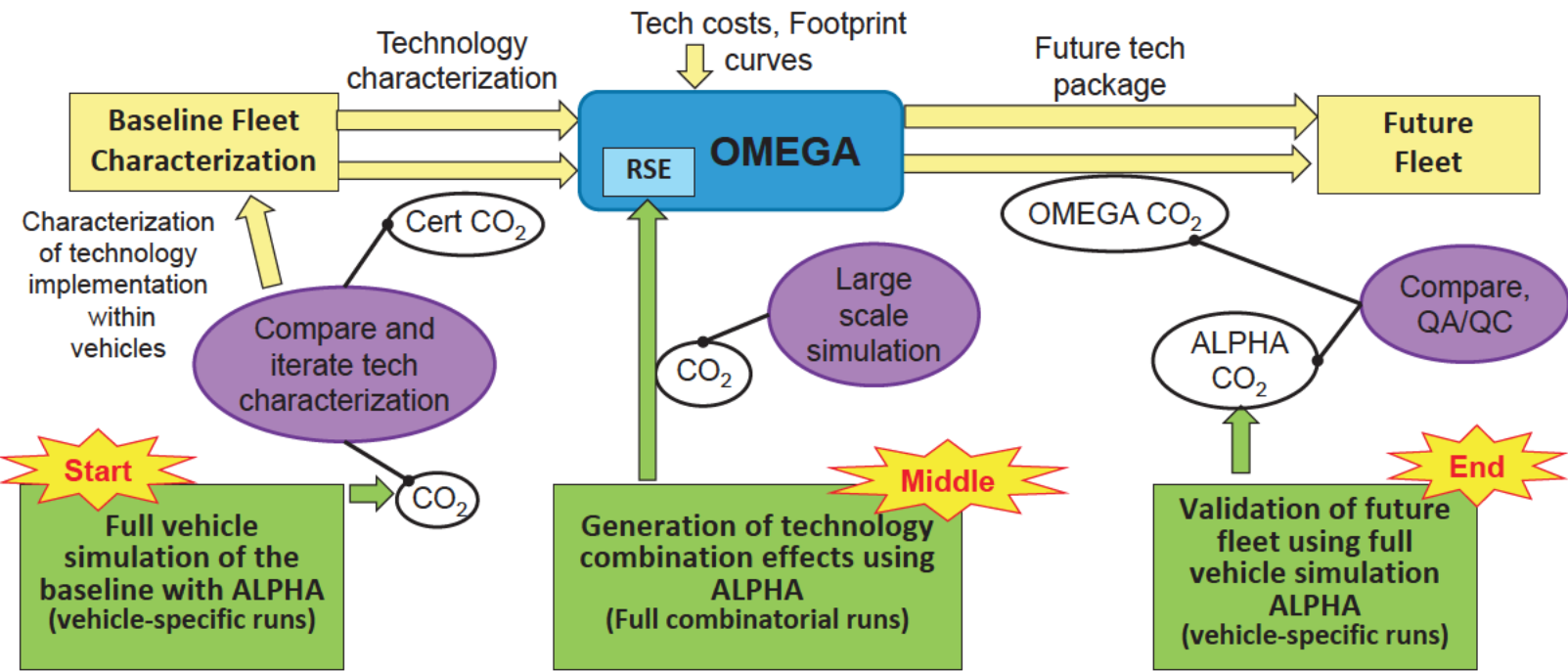
New: Replace LPM with Response Surface Equations based on full combinatorial simulation

- Comment: Uncertainty when applying tech effectiveness values for vehicle classes to individual vehicles
 - The LPM 0-D modeling introduces uncertainty
 - The modeled benefits of mass reduction should be consistent with the benefits in certification
 - The OMEGA model output proliferates the number of engine displacements

End

New: ALPHA simulation of OMEGA future tech packages for individual vehicles

Response to Stakeholder input on EPA's effectiveness modeling approach: Expanded application of ALPHA simulation



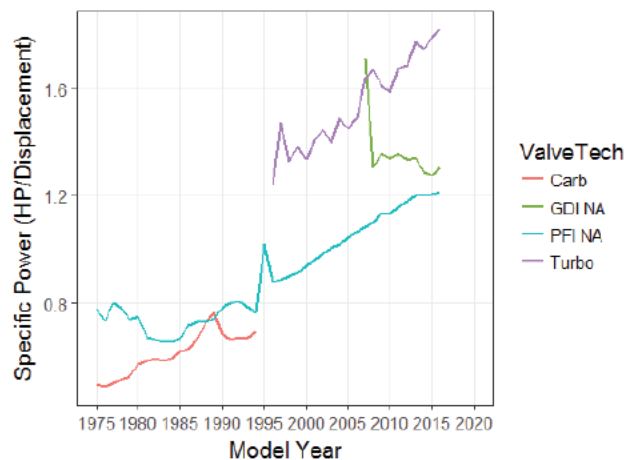
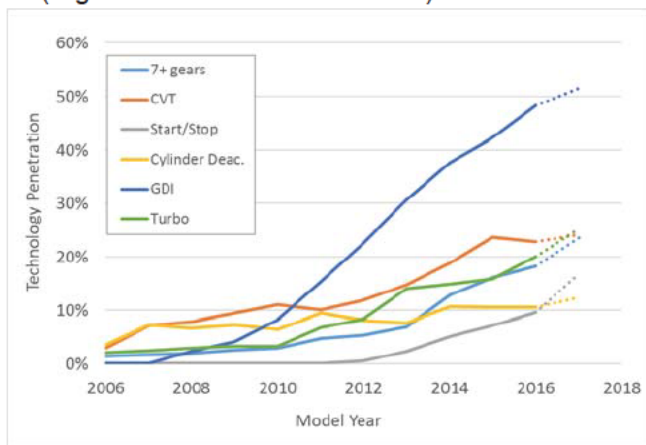
ALPHA Start: Modeling of Baseline

ALPHA Middle: Full combinatorial modeling

ALPHA End: Modeling of Future Fleet

Characterizing the Baseline Fleet: Overview

- Every year, emissions-reducing technologies are introduced into the fleet
- Technology must be evaluated each time baseline is updated (E.g. MYs 2014 → 2015 → 2016)
- Difficult to classify technologies based only on descriptions since implementations may vary
 - Differences in application
 - Technology improvements over time (E.g. different generations of turbocharged engines)



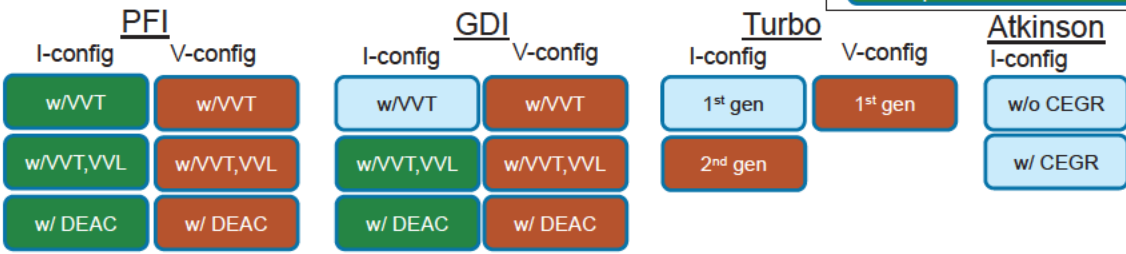
Characterizing Powertrains in the Baseline Fleet

- Continued expansion of the ALPHA powertrain model library for greater resolution simulating the MY2016 fleet

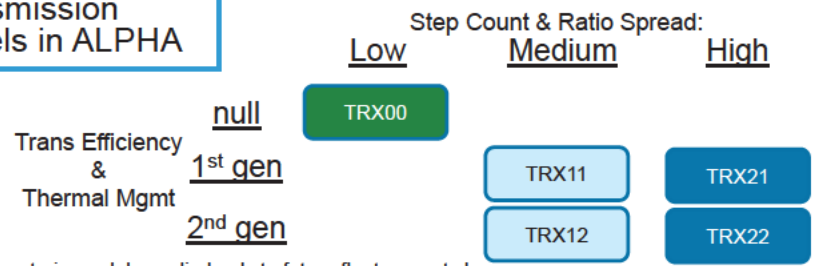
Key
powertrain models now in ALPHA library*

Previously available in ALPHA library	Not previously available in ALPHA library
Previously available in ALPHA library, but not previously considered for baseline fleet	
Not previously available in ALPHA library, but incorporated into LPM based on Ricardo work	

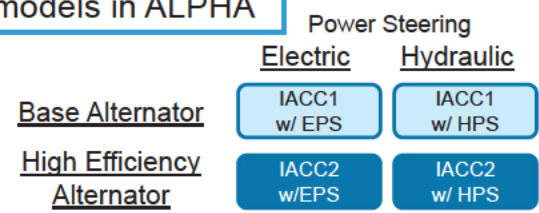
Engine models in ALPHA



Transmission models in ALPHA



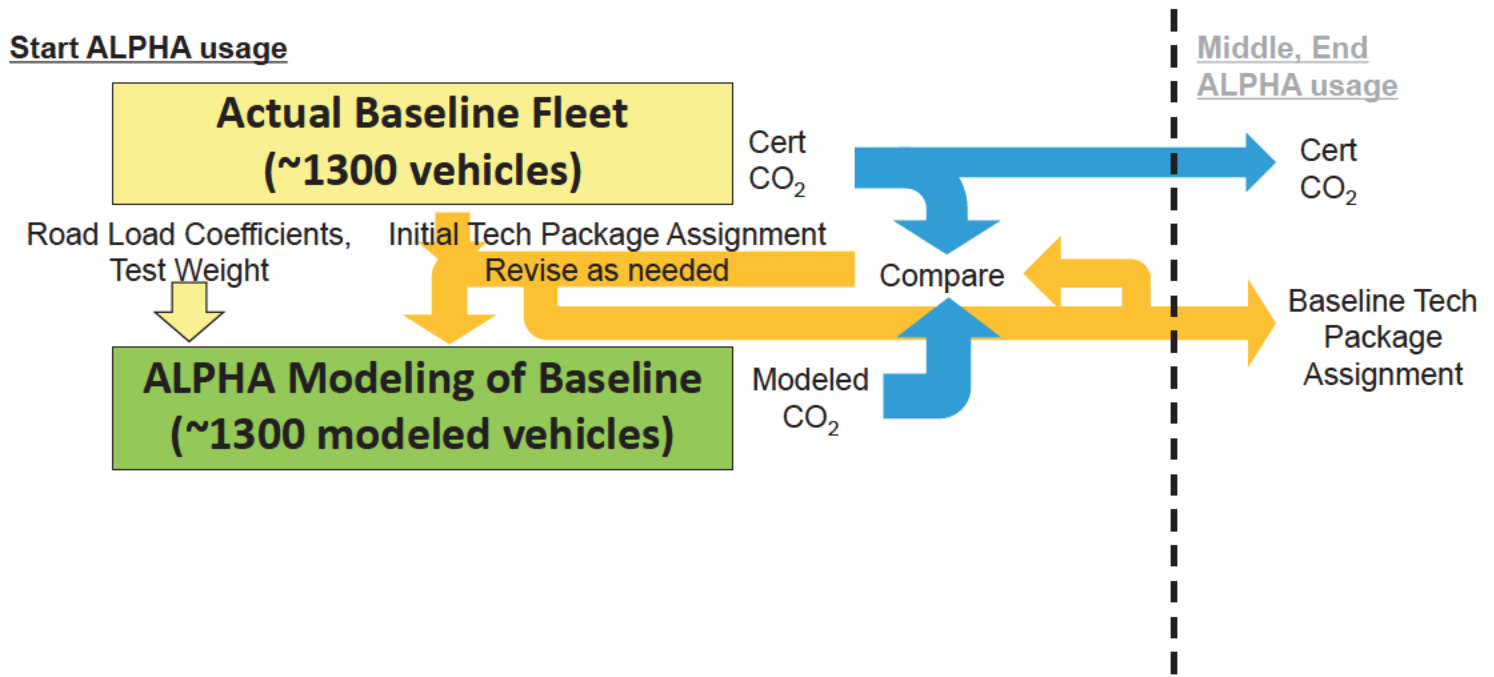
Accessory models in ALPHA



*ALPHA powertrain models applied only to future fleet are not shown

ALPHA Start: Modeling of Baseline ALPHA Middle: Full combinatorial modeling

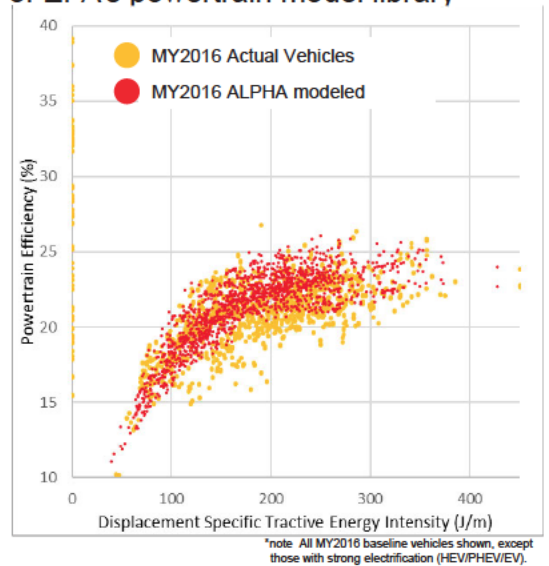
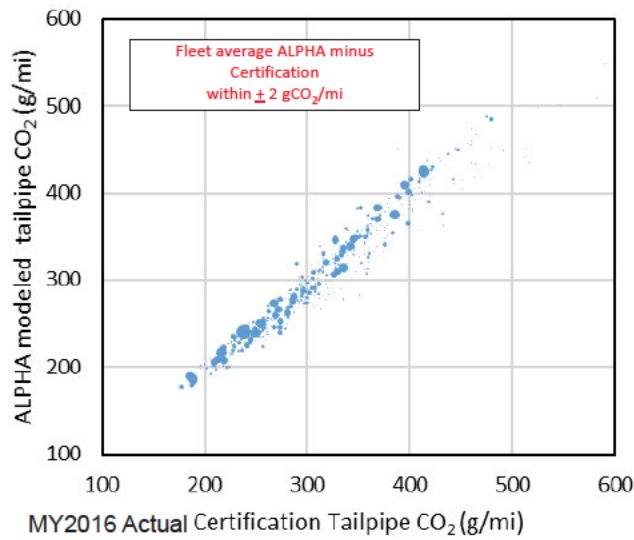
ALPHA Simulation of Individual Vehicles in the Baseline Fleet



ALPHA Start: Modeling of Baseline ALPHA Middle: Full combinatorial modeling ALPHA End: Modeling of Future Fleet

Results: ALPHA Simulation of Individual Vehicles in the Baseline Fleet

- ALPHA simulation results for MY2016 fleet within $\pm 2g$ CO₂/mi (sales-weighted) of actual certification CO₂ values
- Some outliers exist, potentially due to either 1) uncertainty in road load, test weight, or CO₂ values in certification data or 2) powertrains that fall outside the scope of EPA's powertrain model library



A note on Characterizing Road Load Reductions in the Baseline Fleet

- Simulation of individual vehicles in the baseline fleet can be conducted without specific data for load-reducing technologies by direct use of road load coefficient and test weight values
- However, technology characterization is still needed for cost estimation and for identifying the opportunity for additional improvement
- EPA's goal for characterizing road load technologies is to use publicly available data and methodologies that are replicable by stakeholders, specifically:
 - Aerodynamic and non-aerodynamic technology characterization
 - Utilize road load coefficients and dimensional data from various public sources
 - Generate distributions of aero- and non-aero drag by within market classes
 - Bin vehicles into aero- and non-aero technology groups to indicate potential for improvement
 - Mass reduction characterization (multiple approaches);
 - Longitudinal: Curb weight changes between redesigns, adjusting for key factors (E.g. vehicle size, AWD)
 - Cross-sectional: Curb weight comparison amongst MY2016 vehicles, accounting for differences in various vehicle attributes

ALPHA Start: Modeling of Baseline

ALPHA Middle: Full combinatorial modeling

ALPHA End: Modeling of Future Fleet

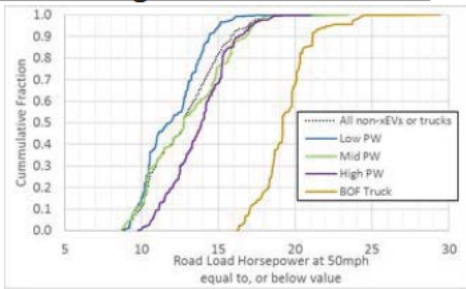
Large Scale ALPHA Simulation of Future Technologies : Overview

- Use effectiveness values only for technology combinations modeled in ALPHA
- Adjust class-specific effectiveness values appropriately for application to individual vehicles
- Leverage parallel computing to perform large number of runs in reasonable time
- Conduct runs at a level of resolution that provides accurate effectiveness values while minimizing use of computational resources

ALPHA Start: Modeling of Baseline ALPHA Middle: Full combinatorial modeling ALPHA End: Modeling of Future Fleet

Determination of Vehicle Classes

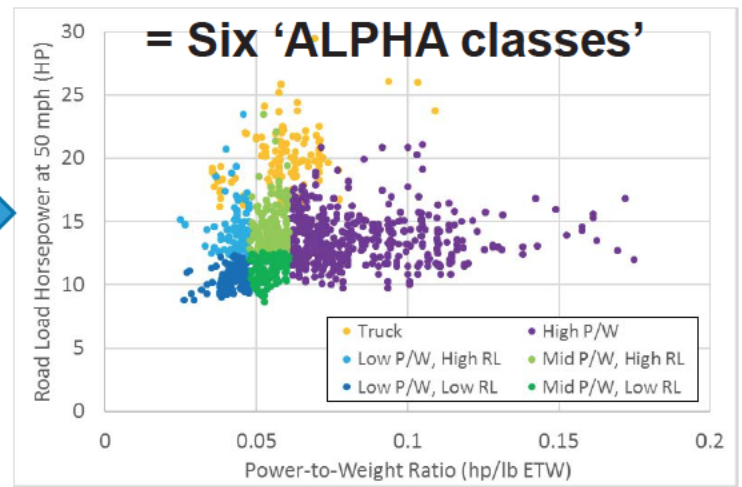
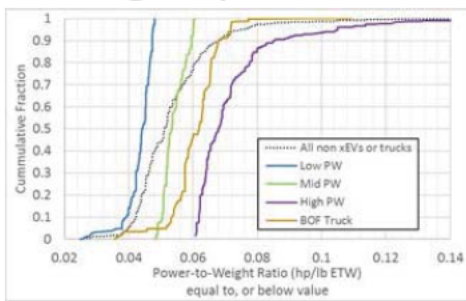
Power-to-weight ratio distribution



- Assign vehicles to classes according to where engines operates over certification test cycles
- Inertial (power-to-weight) and road load dimensions considered independently

X

Road load HP @ 50mph distribution



ALPHA Start: Modeling of Baseline ALPHA Middle: Full combinatorial modeling ALPHA End: Modeling of Future Fleet

All considered combinations of Future Technologies now simulated in ALPHA

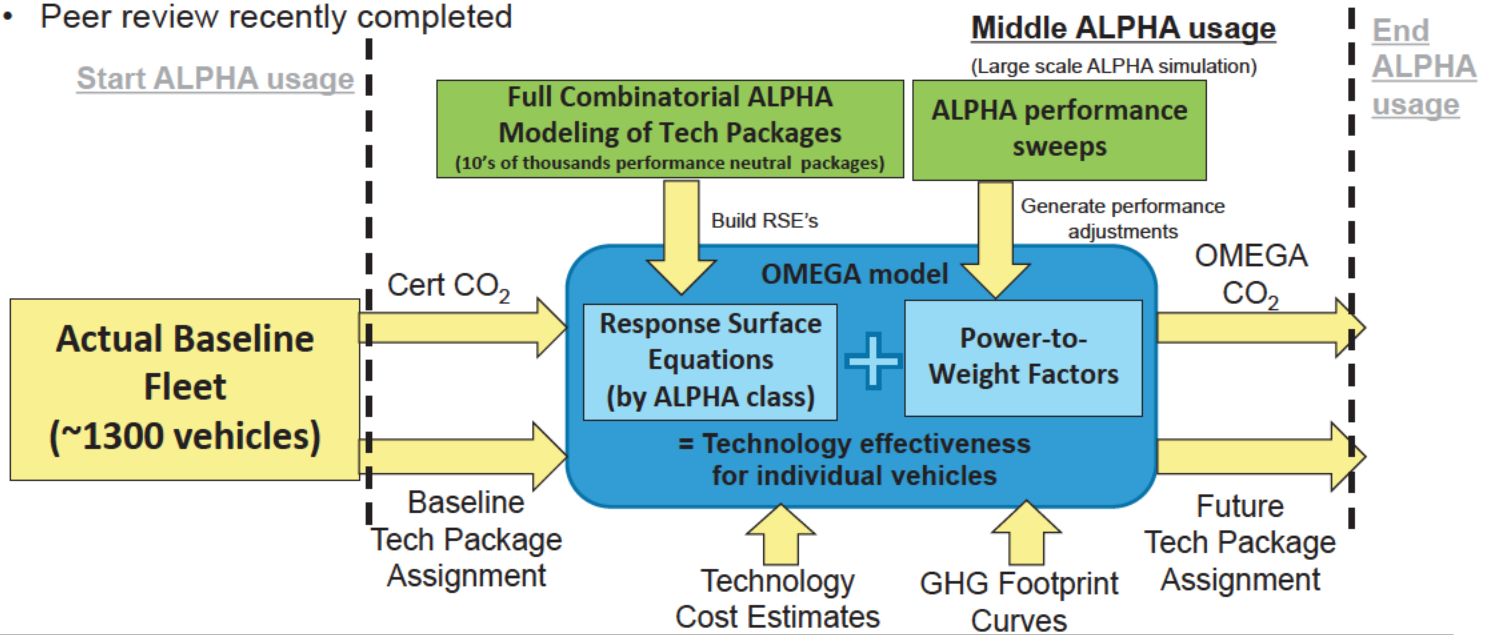
- >500 powertrain combinations (engines, transmissions, accessories)
- Road load sweeps (mass reduction, aero and non-aero drag reduction)
- Six vehicle classes
- Tens of thousands of tech combinations

		Engine															
		OMEGA tech	PFI		PFI + VVL		GDI		GDI + VVL		ATK2	ATK2+CE GR	ATK2+CE GR+DeacP D	TDS11		TDS12	TDS21
			I-config	V-config	I-config	V-config	I-config	V-config	I-config	V-config				I-config	V-config		
Transmission	OMEGA tech																
	Null																
	TRX11	B + DeacP/FC	B + DeacP/FC			B + DeacP/FC	B + DeacP/FC					C + DeacP*	B + DeacP/FC	B + DeacP/FC			
	TRX12	B + DeacP/FC	B + DeacP/FC			B + DeacP/FC	B + DeacP/FC					C + DeacP*	B + DeacP/FC	B + DeacP/FC			
	TRX21	B + DeacP/FC	B + DeacP/FC			B + DeacP/FC	B + DeacP/FC					C + DeacP*	B + DeacP/FC	B + DeacP/FC			
	TRX22	B + DeacP/FC	B + DeacP/FC			B + DeacP/FC	B + DeacP/FC					C + DeacP*	B + DeacP/FC	B + DeacP/FC			

ALPHA Start: Modeling of Baseline ALPHA Middle: Full combinatorial modeling ALPHA End: Modeling of Future Fleet

Response Surface Equations (RSEs)

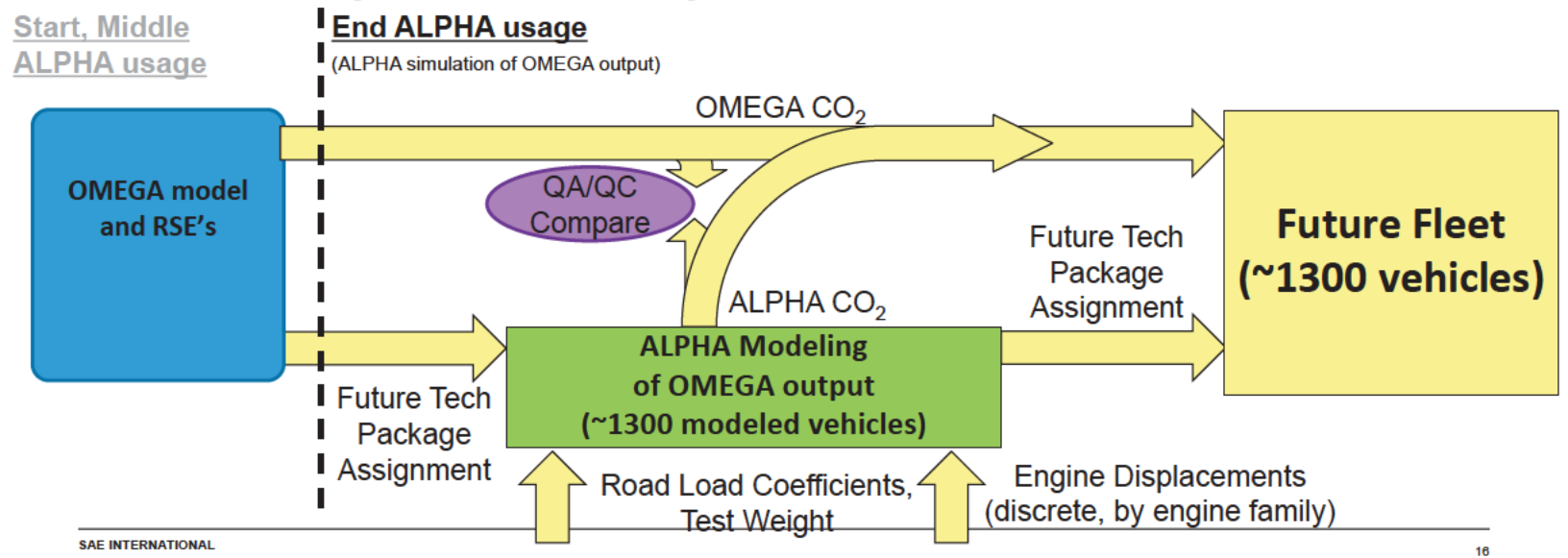
- Response Surface Equations are created to represent the entire set of ALPHA simulations for real-time access in the OMEGA process
- Peer review recently completed



ALPHA Start: Modeling of Baseline ALPHA Middle: Full combinatorial modeling ALPHA End: Modeling of Future Fleet

Final CO₂ values of future fleets using ALPHA simulation

- Use ALPHA simulation of individual vehicles to validate OMEGA CO₂ values
 - Responsive to stakeholder recommendations for greater use of 1-D vehicle simulation
- Consolidate engine displacements test weight bins
 - Responsive to stakeholder comments about the proliferation of unique engine displacements and the effectiveness benefits of curb weight reductions within test weight bins



Conclusion

- EPA has continued the development of tools and processes for modeling technology effectiveness
- Responsive to stakeholder recommendations
- Use of vehicle simulation for characterizing technology in the baseline
- Use of large scale simulation for building Response Surface Equations, enabling greater transparency in the development of effectiveness values
- Use of vehicle simulation for validating CO₂ values of technology packages applied to future vehicles



Thank you!

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2. 2009 EPA/NHTSA NPRM: <https://www.gpo.gov/fdsys/pkg/FR-2009-09-28/pdf/E9-22516.pdf>
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8. 2017 EPA Final Determination: <https://www.epa.gov/sites/production/files/2017-01/documents/420r17001.pdf>
9. "Characterization of GHG Reduction Technologies in the Existing Fleet", SAE Technical Paper 2018-01-1268.
10. "Representing GHG Reduction Technologies in the Future Fleet with Full Vehicle Simulation", SAE Technical Paper 2018-01-1273.

DECLARATION OF DR. DAVE COOKE

I, Dr. Dave Cooke, declare as follows:

1. I am a senior vehicles analyst in the Clean Vehicles Program at the Union of Concerned Scientists, specializing in light-duty and heavy-duty vehicle fuel economy. I conduct research on greenhouse-gas reducing vehicle technologies and their implications for fuel efficiency and oil consumption across the transportation sector. In the course of my research, I regularly use a number of computational models, including EPA's Optimization Model for Reducing Emissions of Greenhouse gases from Automobiles ("OMEGA"), the Volpe model used by the National Highway Traffic Safety Administration to estimate manufacturer compliance pathways for the Corporate Average Fuel Economy Standards, and EPA's Advanced Light-duty Powertrain and Hybrid Analysis ("ALPHA") model. I am familiar with the OMEGA model interface, and have run several previous versions of the OMEGA model.

2. I received my Ph.D. in condensed matter physics from the University of California, Berkeley. I received my M.S. in physics from the University of California, San Diego and my B.S. in physics from Harvey Mudd College. Before joining the Union of Concerned Scientists, I was a Mirzayan Science and Technology Policy Fellow and associate program officer with the National Academies' National Research Council. My work there focused on automotive technologies, including peer-reviewed consensus studies on the development of advanced technology vehicles by 2050, and pathways and barriers to electric vehicle deployment.

EPA's Consumer Choice Model

3. EPA has published five versions of the OMEGA model on its website.¹ Most recently, in July 2016, EPA released OMEGA version 1.4.56.

4. EPA commissioned the Oak Ridge National Laboratory to develop a consumer choice model for use within the OMEGA model, which was completed in 2012. The consumer choice model was “developed to test the concept of predicting the differential sales impacts of fuel economy changes together with price changes brought about by fuel economy standards.”²

5. In 2015, EPA staff performed a validation exercise for the consumer choice model and concluded that it “did not do well” at projecting sales impacts.³

6. EPA published information about the consumer choice model beginning in 2012, and EPA made the model itself public through the agency's release of OMEGA version 1.4.56 in 2016. However, EPA has never applied the consumer choice model in OMEGA runs to inform any published EPA analysis.

Review of the Consumer Choice Source Code and Inputs

7. I have reviewed relevant sections of the published source code for version 1.4.56 of the OMEGA model. The source code is the blueprint of the core model, written in the C# programming language.⁴ The source code is run through a “compiler” that converts the source

¹ EPA, Optimization Model for reducing Emissions of Greenhouse Gases from Automobiles (OMEGA), <https://www.epa.gov/regulations-emissions-vehicles-and-engines/optimization-model-reducing-emissions-greenhouse-gases#omega-1.3.1> (last visited May 12, 2019).

² Greene, David & Changzheng Liu, *Consumer Vehicle Choice Model Documentation* at 2, Prepared for EPA by Oak Ridge National Laboratory, EPA-420-B-12-052 (Mar. 2012), <https://www.regulations.gov/document?D=EPA-HQ-OAR-2010-0799-11831>.

³ EPA, *Testing a Model of Consumer Vehicle Purchases: Draft*, at 4, EPA-420-D-15-011 (Dec. 2015).

⁴ An excerpt of the source code for version 1.4.56 of the OMEGA model is available in Exhibit K to Plaintiffs' Memorandum (Dkt. 40-11).

code into an executable package, written in machine language that can be read by a computer. The machine language is unreadable to humans.

8. When I open the core OMEGA model to run it, I open a file within the executable package.⁵ When I open that file on my computer, the screen appears to me (and any other user) as a simple user interface analogous to using a phone app or computer program. A screen capture of the OMEGA interface is attached as Exhibit A.

9. EPA can make available the executable package, the source code, or both. I do not need access to the source code to run the executable package.

10. The source code for OMEGA version 1.4.56 includes code for the consumer choice model.

11. I have reviewed the published input files for version 1.4.56 of the OMEGA model. These files include inputs for the consumer choice model.

12. I have also reviewed the input files that EPA produced to the Environmental Defense Fund and Natural Resources Defense Council on March 4, 2019, which EPA has stated are part of version 1.4.59 of the OMEGA model. The version 1.4.59 input files contain the same consumer choice inputs that are contained in the version 1.4.56 input files.

13. Accordingly, it is clear that EPA did not update or alter the consumer choice inputs in its most current version of the OMEGA model. The input files accompanying versions 1.4.56 and 1.4.59 utilize the same coefficients of the consumer choice model published by EPA in 2016.⁶ Based on my experience with computational modeling tools, the fact that EPA did not

⁵ The executable package contains multiple files, including supporting “.DLL” library files and the “.exe” executable file that opens the OMEGA core model program.

⁶ The coefficients of the consumer choice model are found in the “Logit” tab of the Market*.xls OMEGA input files and are identical to those published by EPA in its analysis of the accuracy of consumer choice models (Table 2, EPA-420-D-15-011).

update the inputs for the consumer choice model over this three-year period strongly suggests that EPA did not update the fundamental behavior or structure of the consumer choice model itself. While EPA may have made changes to the consumer choice model that could make it run more smoothly, from reviewing the available materials I do not believe that EPA has altered the basic operation of the consumer choice model.

14. Furthermore, the input files for versions 1.4.56 and 1.4.59 of the OMEGA model contain an “on/off switch” for the consumer choice model. This switch is located in the Scenario.xls input file.⁷ In the Scenario.xls input files for both versions 1.4.56 and 1.4.59, the switch is set to “off.” This indicates that EPA did not use the consumer choice model in 2016, and that EPA is not using the consumer choice model in the current version of OMEGA. Further evidence for EPA’s decision not to use the consumer choice model can be found in the Market*.xls files. The consumer choice model class is set to zero for all vehicles in the Market*.xls input files for both versions 1.4.56 and 1.4.59. This means the consumer choice model could not be run without further modification of the inputs.

15. Based on the information EPA has released about the current version of the OMEGA model, version 1.4.59, through the input files; and based on my experiences using this model; it is my opinion that it is highly unlikely that EPA has altered the v1.4.59 core model by changing the consumer choice model that is currently built into the core model’s executable package.

16. EPA Assistant Administrator William Wehrum states in his declaration, at paragraph 19, that “[t]he mere fact of whether or not policy consideration was given to

⁷ In the Scenario.xls file, a user can select the maximum iterations of the consumer choice model. Setting this to zero effectively turns “off” the consumer choice model when the OMEGA model is run.

including” a tool like the consumer choice model “in the current version of the OMEGA model, and the outlines and parameters of any such hypothetical tool,” would “reveal EPA’s pre-decisional thinking.” But as explained above, EPA has already made such considerations public in other documents. Furthermore, all evidence indicates that EPA has not altered the consumer choice inputs or model since 2016.

I declare under penalty of perjury that the foregoing is true and correct.



Dave Cooke

Dated May 13, 2019
Washington, DC

DECLARATION OF DR. DAVE COOKE

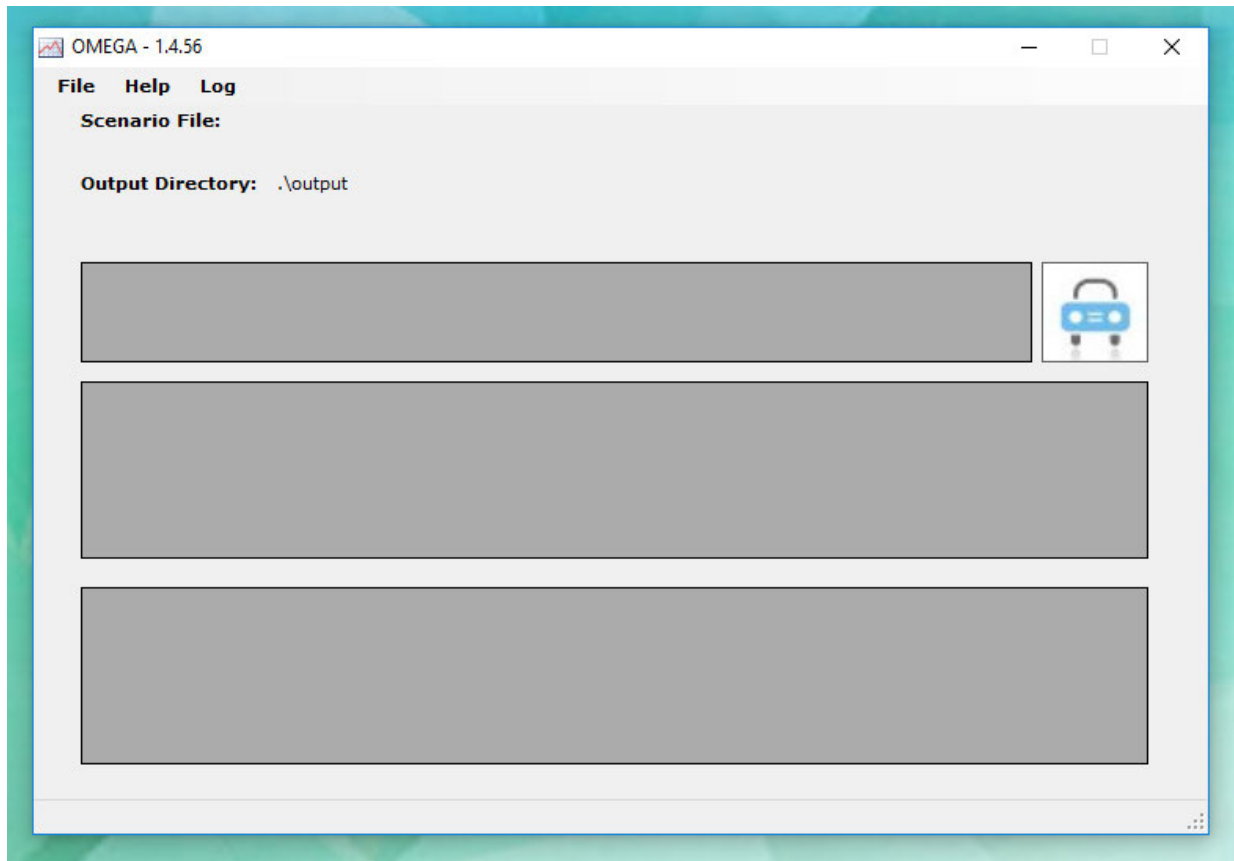
EXHIBIT A

Screen Capture of the User Interface of Version 1.4.56 of the OMEGA Model

Source:

OMEGA Model downloaded from EPA, Optimization Model for reducing Emissions of Greenhouse Gases from Automobiles (OMEGA), <https://www.epa.gov/regulations-emissions-vehicles-and-engines/optimization-model-reducing-emissions-greenhouse-gases> (last visited May 13, 2019)

Screen capture of the OMEGA version 1.4.56 user interface, when a user initially opens the executable file:



Screen capture of the OMEGA version 1.4.56 user interface, when a user conducts a “run” of the model:

OMEGA - 1.4.56

File Help Log

Scenario File: C:\OMEGA\OMEGA 1.4.56\Input\Scenario.xls

Output Directory: .\output

ID	Name	BaseY...	Target...	TARF	Target...	FleetT...	Cycles
1	Sample...	2010	Co2	2	1	2	1
2	Sample...	2010	Co2	2	1	2	1

IndexNo	Model	Model	typeNo	Sales-1	Sales-2	Sales-3	Sales-4	Co2-Pi...
1	MFR A	SUBCO...	1	C	PC	7	SUBCO...	357305....
2	MFR A	SUBCO...	2	C	PC	7	SUBCO...	30805.3...
3	MFR A	SUBCO...	2	C	PC	2	SUBCO...	46453.3...
4	MFR A	SUBCO...	2	C	PC	2	SUBCO...	43171.4...

Cycle	typeNo	packNo	packAbbr	Cap	AIE	Cost	FuelType	TechApp
1	1	1	TP11	1	0.229	517.9	G	0
1	1	2	TP12	1	0.032	76.5	G	1
1	1	3	TP13	1	0.032	93.3	G	2
1	1	4	TP14	1	0.056	214	G	3

UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK

NATURAL RESOURCES DEFENSE COUNCIL
and ENVIRONMENTAL DEFENSE FUND,

Plaintiffs,

-v-

UNITED STATES ENVIRONMENTAL
PROTECTION AGENCY,

Defendant.

18 Civ. 11227 (PKC) (DCF)

**REPLY MEMORANDUM OF LAW IN FURTHER SUPPORT OF
EPA'S CROSS-MOTION FOR SUMMARY JUDGMENT**

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Defendant EPA,¹ by its undersigned counsel, respectfully submits this reply memorandum of law in further support of its cross-motion for summary judgment.

ARGUMENT

Plaintiffs' opposition does not undermine EPA's showing that its withholding of the current draft of the core OMEGA model was proper under the deliberative process privilege. The draft model is predecisional because it forms a part of EPA decisionmaking concerning future agency tools to assess greenhouse gas emissions from automobiles and, more broadly, agency policy determinations concerning greenhouse gas regulations. The current interim version of the model is also deliberative, as it is a draft that reflects the views of agency program staff rather than final agency determinations; its release could reveal whether or not the agency made substantive policy-based analytic changes to the model. Such a release would foreseeably cause harm to EPA's deliberative processes. The Court should reject Plaintiffs' formalistic argument that the model is not protected because it is a computer program rather than a "letter" or "memorandum," as well as their claim that EPA could segregate and release the OMEGA "executable package" without releasing its source code. For the reasons set out below, the Court should grant summary judgment to EPA and deny Plaintiffs' cross-motion.

I. VERSION 1.4.59 OF THE CORE OMEGA MODEL IS PROTECTED BY THE DELIBERATIVE PROCESS PRIVILEGE AND WAS PROPERLY WITHHELD

A. EPA's Draft of the Core OMEGA Model Is Predecisional

EPA has shown that version 1.4.59 of the OMEGA core model—EPA's current interim version of the model—precedes and is used to assist EPA decisionmaking regarding EPA's broader regulation of greenhouse gas emissions and potential future final versions of OMEGA. *See* Wehrum Decl. ¶¶ 6, 10-12; Charmley Decl. ¶¶ 11-16. It is therefore predecisional.

¹ Defined terms bear the same meaning assigned to them in EPA's opening brief, Dkt. No. 47.

Plaintiffs incorrectly argue that the privilege is limited to materials used in decisions “facing the agency in the foreseeable future.” Dkt. No. 50 (“Pl. Opp.”) at 19 (quotation marks omitted). But Plaintiffs’ proposed limitation of the privilege to materials leading to specific, final decisions in the near future is not supported by the deliberative process doctrine. Courts have repeatedly concluded that draft material that never becomes finalized (as this version of the core OMEGA model, to date, has not) may nonetheless be protected by the privilege because it constitutes a part of an agency’s decisionmaking process, even if it does not lead to a specified final agency decision. For instance, the D.C. Circuit concluded that draft deliberative materials that were never finalized—that is, materials that “died on the vine”—were “still pre-decisional and deliberative,” regardless of whether they “actually evolve[d] into final Executive Branch actions.” *Nat’l Sec. Archive v. CIA*, 752 F.3d 460, 463 (D.C. Cir. 2014). Similarly, the Second Circuit held that a “draft of a proposed op-ed article” that was “never published” was “a draft and for that reason predecisional.” *ACLU v. DOJ*, 844 F.3d 126, 133 (2d Cir. 2016); *see also Nat. Res. Def. Council, Inc. v. Nat’l Marine Fisheries Serv.*, 409 F. Supp. 2d 379, 384 (S.D.N.Y. 2006) (rejecting argument that document was not predecisional because agency did not identify a “final agency report” of which it was a draft).

The “existence of the privilege” does not “turn[] on the ability of an agency to identify a specific decision in connection with which a memorandum is prepared.” *NLRB v. Sears, Roebuck & Co.*, 421 U.S. 132, 151 n.18 (1975); *accord Tigue v. DOJ*, 312 F.3d 70, 80 (2d Cir. 2002) (“the fact that the government does not point to a specific decision made by the [agency] in reliance on the [deliberative material] does not alter the fact that [it] was prepared to assist [agency] decisionmaking on a specific issue”); *Color of Change v. DHS*, 325 F. Supp. 3d 447, 454 (S.D.N.Y. 2018) (rejecting analogous argument that agency “fail[ed] to pinpoint a decision

or policy to which the papers contributed”). EPA considered results from the interim OMEGA model in its broader consideration of greenhouse gas regulation as part of an interagency review process, but ultimately did not rely on the draft OMEGA model for its analysis in the rulemaking process. *See* Charmley Decl. ¶¶ 17-21; Wehrum Decl. ¶ 8. The draft version thus contains “reasons which might have supplied, but did not supply, the basis for [agency] policy,” *Sears*, 421 U.S. at 152. Thus, contrary to Plaintiffs’ position, version 1.4.59 of the OMEGA core model is predecisional, regardless of whether the model is ever finalized again for a future release.

B. The Draft Core OMEGA Model Is Deliberative

The draft OMEGA model is deliberative because it is an interim version that reflects EPA’s ongoing process of considering updates to the model. *See* Wehrum Decl. ¶¶ 11-12; Charmley Decl. ¶¶ 13-16.² Plaintiffs argue that EPA’s compliance with FOIA’s segregation requirements by releasing the OMEGA inputs and other components of version 1.4.59 somehow precludes the application of the deliberative process privilege to the core model itself. Pl. Opp. at 10. But the fact that EPA has released the input information is not dispositive, because the input files do not necessarily reveal whether updates were made to the core OMEGA model itself. *See* Wehrum Decl. ¶¶ 11-14. By contrast, release of the core model itself “would reveal whether or not substantive analytical changes have been made or explored in the current version of the OMEGA model,” and thus “would betray the deliberative give and take of the policy development process.” *Id.* ¶ 14. The issue here is whether the release of the core model would

² The Court should reject Plaintiffs’ argument that the current version is not a “draft” because, they assert, agency practices differed before 2012. Pl. Opp. at 13-15. Plaintiffs rely on a declaration they supplied, which itself describes agency practices as they reportedly existed before 2012, *see* Dkt. No. 52 (Suppl. Oge Decl.) ¶¶ 2, 8-12. Thus, the facts upon which Plaintiffs rely are simply not in conflict with the agency’s position, as they do not relate to the same time period. *Cf.* Fed. R. Civ. P. 56(c)(4) (declaration supporting summary judgment must be “made on personal knowledge, set out facts that would be admissible in evidence, and show that the . . . declarant is competent to testify on the matters stated”).

show nonfinal changes to how EPA analyzes the data in the input files—not which data were selected for inclusion in the input files, which have been released. *See* Charmley Decl. ¶¶ 10, 12, 17-21.

Plaintiffs also misread several of the cases where courts have ruled on the application of the deliberative process privilege to scientific models or computer programs. In *Goodrich Corp. v. EPA*, 593 F. Supp. 2d 184, 189 (D.D.C. 2009), the court held that an EPA “draft groundwater flow model” was deliberative, concluding that “evolving iterations of the Model’s inputs and calibration reflect the opinions of the staff currently developing the Model, which may not represent EPA’s ultimate opinions relating to these matters.” *Id.* (quotation marks omitted); *see* Wehrum Decl. ¶¶ 13-14. Furthermore, the court held, “even if the data plugged into the model is itself purely factual, the *selection and calibration* of data is part of the deliberative process to which Exemption 5 applies.” *Goodrich*, 593 F. Supp. 2d at 189 (emphasis added). The release of the draft core OMEGA model would reveal analogous deliberative information: EPA’s nonfinal determinations concerning the “choice of which analytical tools were employed, or not employed.” Wehrum Decl. ¶ 16; *see id.* ¶¶ 13-20.

In *Urban Air Initiative, Inc. v. EPA*, 271 F. Supp. 3d 241 (D.D.C. 2017), the court held that material about an EPA study was deliberative, in part because EPA “had to make critical decisions” to “define[] the scope of the study, estimate[] costs, determine[] test procedures, and select[] the fuel parameters and vehicles.” *Id.* at 261 (quotation marks omitted). Plaintiffs miss the point by focusing on the *form* in which this information was packaged, in “emails and other internal agency records.” Pl. Opp. at 11. But the principle applies here, too: the release of the draft core OMEGA model would reveal comparable types of nonfinal staff decisions concerning the model, Wehrum Decl. ¶¶ 13-20, even if that information would be revealed through the

model itself rather than being packaged in “prose documents,” Pl. Opp. at 11. Finally, Plaintiffs misread *Reilly v. EPA*, 429 F. Supp. 2d 335 (D. Mass. 2006), to stand for the proposition that a model cannot be deliberative. However, *Reilly* held that the model was not deliberative because the identical model used by EPA—the “EPA version”—was already “in the public domain” and “available for use by the public.” *Id.* at 349, 353. And multiple cases stand for the principle that draft models can be deliberative, including *Goodrich* and *Cleary, Gottlieb, Steen & Hamilton v. HHS*, 844 F. Supp. 770, 782-83 (D.D.C. 1993).³

C. Disclosing the Draft Core Model Would Foreseeably Harm EPA’s Deliberative Process

EPA established that the release of the interim core model would foreseeably cause harm of the type that exemption 5 is intended to prevent. Dkt. No. 47 (“EPA Br.”) at 18-21. And EPA’s declaration set out that the disclosure of the interim OMEGA core model “would be harmful to the agency.” First, release “would chill free and open discussions of EPA staff regarding their opinions on the appropriate analytical tools to be included in the model” if staff “knew that their interim updates or initial attempts to create new analytical tools would someday be released to the public,” thus foreseeably causing “harm [to] the agency’s decisionmaking capabilities in the future regulatory development process.” Wehrum Decl. ¶ 21. This is the case

³ Plaintiffs’ view of *Cleary* is unconvincing. Plaintiffs assert its holding applies only to records created by a “single, identifiable individual.” Pl. Opp. at 13. But the case does not support this view. Indeed, the privilege protects deliberative processes including “review and discussion” with “collaborators” or “research colleagues,” as *Cleary* itself recognized. *Cleary*, 844 F. Supp. at 782 (discussing draft manuscript); *see also, e.g., Judicial Watch, Inc. v. DOJ*, 20 F. Supp. 3d 260, 271 (D.D.C. 2014) (“[W]hen the role of the author is as an advice-giver rather than a decision-maker, this militates in favor of the document qualifying as part of the deliberative process.”). And Plaintiffs’ response regarding *Lahr v. NTSB* is conclusory: they state without evidence that EPA’s deliberative process cannot be reconstructed by reviewing the OMEGA model itself. Pl. Opp. at 12. But here EPA has demonstrated that release of the core model will reveal its deliberative process, because the current draft could be compared to prior versions. Wehrum Decl. ¶¶ 14-20; *see Lead Indus. Ass’n, Inc. v. OSHA*, 610 F.2d 70, 86 (2d Cir. 1979).

“[e]ven if the release . . . revealed only that the agency did not add” new analytical tools or features. *Id.* ¶ 19.⁴ Second, release would foreseeably “cause public confusion,” because the current interim model does not “reflect final [EPA] decisions about how the model should be calibrated and run, or which analytical tools it should contain.” *Id.* ¶ 22.

Plaintiffs’ response largely consists of the bare argument that EPA’s statement is “conclusory.” Pl. Opp. at 21. But courts have rejected similar arguments where (as here) the agency “has explained who deliberated . . . , the agency action about which they deliberated . . . , the role the deliberations played in crafting that action . . . , and the harms that would result from disclosure,” including “a chill on agency staff’s ability to weigh options candidly to make decisions.” *Prechtel v. FCC*, 330 F. Supp. 3d 320, 327 (D.D.C. 2018).

D. The Court Should Reject Plaintiffs’ “Letter or Memorandum” Argument, Which Is Unsupported by Precedent

Plaintiffs appear to concede that no case law supports their argument that the deliberative process privilege protects only documents described as “memorandums or letters.” *See* Pl. Opp. at 3-4. What authority does exist, moreover, rejects their theory. The Fourth Circuit concluded that “although Exemption 5 addresses itself only to ‘letters and memorandums,’ the privileges Congress sought to preserve would be gutted if FOIA could be used to reach items like draft pleadings, litigation exhibits, and data on government computers.” *Hunton & Williams v. DOJ*, 590 F.3d 272, 280 (4th Cir. 2010). The Eleventh Circuit deemed an analogous argument “specious,” holding that “[i]n adopting exemption 5, Congress clearly intended to exempt any

⁴ Plaintiffs debate the status of the consumer choice sub-model, *see* Pl. Opp. at 7-8, but in EPA’s declaration, this sub-model was posited as an example of the type of analytical tool that EPA has considered for some time, *see* Wehrum Decl. ¶¶ 17-20. Plaintiffs puzzlingly focus on the fact that this sub-model was “encoded in the OMEGA core model, but turned off,” Pl. Opp. at 7-8 & n.1—but this is consistent with EPA’s declaration, which states that as of 2016 EPA continued to consider expanding future versions of OMEGA to include such a tool. Wehrum Decl. ¶ 18.

document connected with the agency’s deliberative process, *not just memoranda and letters.*” *Chilivis v. SEC*, 673 F.2d 1205, 1212 n.15 (11th Cir. 1982) (emphasis added). “Thus in applying exemption 5, a court must focus on the contents of a document rather than its form.” *Id.*

Additionally, Congress indicated in a legislative report that it intended for exemption 5 to have sufficient breadth to protect agency deliberations, regardless of form. Indeed, Congress’s purpose in creating the exemption was to protect “*documents or information*”—not just communications—that an agency “has received or generated before it completes the process of awarding a contract or issuing an order, decision or regulation.” H.R. Rep. No. 89-1497, at 10 (1966) (emphasis added). Exemption 5 was thus “intended to exempt from disclosure *this and other information and records wherever necessary*” to protect agency deliberations, “without, at the same time, permitting indiscriminate administrative secrecy.” *Id.* (emphasis added).

The authority Plaintiffs cite does not support their argument. They erroneously rely on the Supreme Court’s statement in *Klamath* that “the first condition of Exemption 5 is no less important than the second,” Pl. Opp. at 3 (citing *Dep’t of Interior v. Klamath Water Users Protective Ass’n*, 532 U.S. 1, 9 (2001)), but *Klamath* specifically addressed exemption 5’s requirement that the record “must be ‘inter-agency or intra-agency,’” *Klamath*, 532 U.S. at 9—not whether the record was a “letter or memorandum.”⁵ Plaintiffs do not assert that the “source” of the core model is not “a Government agency,” *id.* at 8, and thus *Klamath* does not support Plaintiffs’ “letter or memorandum” argument.

Moreover, as set out in EPA’s opening brief, the privilege is clearly broader than

⁵ The Second Circuit has concluded that exemption 5’s “inter-agency or intra-agency” language does not preclude even documents prepared *outside* the federal government from deliberative process protection—undermining Plaintiffs’ textual argument. *Tigue*, 312 F.3d at 77-78 (despite the text of exemption 5, “nothing turns on the point that reports were prepared by outside consultants rather than agency staff” (quoting *Lead Indus.*, 610 F.2d at 83) (ellipses omitted)).

Plaintiffs’ cramped reading. It covers all “*documents* which a private party could not discover in litigation with the agency.” *Sears*, 421 U.S. at 148 (emphasis added); accord *Burka v. HHS*, 87 F.3d 508, 516 (D.C. Cir. 1996) (“*information* which is routinely protected in discovery falls within the reach of Exemption 5” (emphasis added)). Plaintiffs’ form-over-substance argument cannot be squared with the principle that “Congress enacted Exemption 5 to protect the executive’s deliberative processes—not to protect specific materials.” *Dudman Commc’ns Corp. v. Dep’t of Air Force*, 815 F.2d 1565, 1568 (D.C. Cir. 1987).

Plaintiffs’ argument also fails to explain the multiple decisions in which courts have concluded that computer models or programs are protected by the deliberative process privilege. See, e.g., *Goodrich*, 593 F. Supp. 2d at 189 (“draft groundwater flow model” protected under exemption 5); *Cleary*, 844 F. Supp. at 782-83 (“computer software programs” protected by deliberative process privilege).⁶ Moreover, Plaintiffs are unsuccessful in attempting to explain away holdings of the Second and D.C. Circuits that permitted the withholding of tables, cost estimates, and other factual information. Pl. Opp. at 4 (discussing *Lead Indus.*, 610 F.2d at 85; *Quarles v. Dep’t of Navy*, 893 F.2d 390, 392 (D.C. Cir. 1990)).⁷ They present no theory that coherently explains why the same information would properly be protected when “included in a ‘report’ ‘to facilitate understanding,’” *id.* (quoting *Lead Indus.*, 610 F.2d at 85), but not when it is packaged in a different type of document. The Court should reject Plaintiffs’ formalistic

⁶ Even the cases that Plaintiffs cite for other purposes undermine their “memorandums or letters” argument. In *Reilly v. EPA*, the court concluded that computer model outputs from a computer model were not protected by exemption 5—but *Reilly* held that those outputs were not *deliberative*, and did not rely on the argument that they were not “memorandums or letters.” See *Reilly*, 429 F. Supp. 2d at 351-53; see also *id.* at 353 n.15 (observing that “the case law has taken Exemption 5 well beyond the plain words of the statute”).

⁷ In *Quarles*, the D.C. Circuit upheld the agency’s action to withhold cost estimates under exemption 5, while releasing much of the rest of the “report” itself. See 893 F.2d at 391.

argument, which would “gut[]” the “privileges Congress sought to preserve” through exemption 5. *Hunton & Williams*, 590 F.3d at 280; *accord Chilivis*, 673 F.2d at 1212 n.15.

E. EPA’s Segregability Analysis Was Proper

Plaintiffs argue that EPA could have segregated and released the compiled “executable package” for the current OMEGA version—the file that can be run by a computer—without releasing its “uncompiled source code.” Pl. Opp. at 22. A computer program’s “source code” is written in a computer programming language, which is then “compile[d]” into executable “object code,” which is, generally speaking, “the binary language comprised of zeros and ones through which the computer directly receives its instructions.” *Computer Assocs. Int’l, Inc. v. Altai, Inc.*, 982 F.2d 693, 698 (2d Cir. 1992).

The distinction between OMEGA’s source code and executable package is not as Plaintiffs present it, and releasing the executable package alone would still reveal EPA’s deliberative process. First, the release of the OMEGA executable package would reveal whether or not certain analytical tools were added to OMEGA, simply through use of the current interim version, *see* Wehrum Decl. ¶¶ 16-20, thus causing the same harms to the deliberative process. Second, it is true that executable code “generally cannot be understood by humans” because it has been translated into a “language that can be processed only by a computer.” Supplemental Declaration of William Charmley (“Suppl. Charmley Decl.”) ¶ 1. But “[o]bject code can . . . be decompiled into source code.” *Syntek Semiconductor Co. v. Microchip Tech. Inc.*, 307 F.3d 775, 779 (9th Cir. 2002). This is true here: EPA ran a freely available “‘decompiler’ program on the executable package for OMEGA version 1.4.59” and was thereby “able to create a functionally identical version of the OMEGA version 1.4.59 source code.” Suppl. Charmley Decl. ¶ 2. Thus, because the release of even the executable package alone would disclose predecisional, deliberative material, EPA properly determined it could not segregate and release it.

II. PLAINTIFFS' REQUEST TO EXPEDITE THIS ACTION SHOULD BE DENIED

As shown in EPA's opening brief, Plaintiffs do not qualify for expedited processing under FOIA. *See* EPA Br. at 23-25 (citing 5 U.S.C. § 552(a)(6)(E)). Plaintiffs implicitly concede the point, as they state only that they meet half of the applicable standard, Pl. Opp. at 23-24, while failing to mention that the FOIA standard also requires them to be "primarily engaged in disseminating information," 5 U.S.C. § 552(a)(6)(E)(v)(II), which they are not.⁸

Instead, Plaintiffs suggest that the Court should ignore the FOIA-specific standard for expedition, which they claim to be meaningful only for administrative processing purposes. Pl. Opp. at 23. However, this does not explain Congress's creation of a judicial review provision for denials of expedited processing under FOIA. *See* 5 U.S.C. § 552(a)(6)(E)(iii). Furthermore, while Plaintiffs now assert that they are only seeking to have the *Court* expedite its decision under 28 U.S.C. § 1657(a), Pl. Opp. at 23-24, Plaintiffs took a different position earlier in this same litigation when they first moved to expedite the case under the same provision, seeking to require *the agency to process* their request at the pace they thought was appropriate. *See* Dkt. Nos. 12-15 (plaintiffs' first motion to expedite); Dkt. No. 24 (EPA opposition). Plaintiffs ultimately withdrew their first motion to expedite when EPA responded to the priority portion of the request before the Court took any action on the motion. *See* Dkt. Nos. 30-33. Because Plaintiffs have not established that they qualify for FOIA expedited processing, or otherwise shown good cause as required under § 1657(a), their motion to expedite should be denied.

CONCLUSION

EPA's motion for summary judgment should be granted, and Plaintiffs' motion for summary judgment and to expedite should be denied.

⁸ Plaintiffs also did not show "urgency to inform the public concerning actual or alleged Federal Government activity." 5 U.S.C. § 552(a)(6)(E)(v)(II); *see* EPA Br. at 24-25.

Dated: May 23, 2019
New York, New York

Respectfully submitted,

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UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK

NATURAL RESOURCES DEFENSE COUNCIL
and ENVIRONMENTAL DEFENSE FUND,

Plaintiffs,

-v-

UNITED STATES ENVIRONMENTAL
PROTECTION AGENCY,

Defendant.

18 Civ. 11227 (PKC) (DCF)

SUPPLEMENTAL DECLARATION OF WILLIAM CHARMLEY

I, William Charmley, declare pursuant to 28 U.S.C. § 1746 that the following statements are true and correct to the best of my knowledge and belief, that they are based upon information acquired by me in the course of performing my duties, information contained in the records of the United States Environmental Protection Agency (EPA), and information supplied to me by current and former EPA employees including employees under my direction.

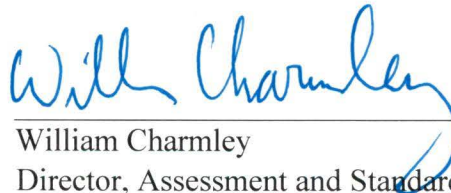
1. The core model for OMEGA version 1.4.59 includes both its source code, written as plain text in the programming language C#, and an executable package consisting of “compiled” code. On its own, a reading of the executable package generally cannot be understood by humans because the compiling process has interpreted the source code files from plain text into a language that can be processed only by a computer.

2. However, there are numerous free “decompiler” programs available online that can convert the machine-readable code of the executable package back into the original textual source code. My staff has run such a “decompiler” program on the executable package for

OMEGA version 1.4.59 and was able to create a functionally identical version of the OMEGA version 1.4.59 source code.

I declare, under penalty of perjury, that the foregoing is true and correct.

Dated: May 23, 2019
Ann Arbor, MI



William Charmley
Director, Assessment and Standards Division
Office of Transportation and Air Quality
U.S. Environmental Protection Agency

MEMORANDUM

TO: Members of the Chartered SAB and SAB Liaisons

FROM: Alison Cullen, Chair, SAB Work Group on EPA Planned Actions for SAB Consideration of the Underlying Science */signed/*

DATE: April 25, 2019

SUBJECT: Preparations for Chartered Science Advisory Board (SAB) Discussions of EPA Planned Agency Actions and their Supporting Science in the Spring 2018 Regulatory Agenda

The Chartered SAB will discuss whether to review the adequacy of the science supporting planned regulatory actions identified by the EPA as major actions in the Spring 2018 semi-annual regulatory agenda at its June 2019 meeting. To support this discussion a SAB Work Group was charged with identifying actions for further consideration by the Chartered SAB. This memorandum provides background on this activity, a short description of the process for identifying actions for SAB consideration, a summary of the process used by the Work Group and Work Group recommendations on the planned actions.

Background

The Environmental Research, Development, and Demonstration Authorization Act of 1978 (ERDDAA) requires the EPA to make available to the SAB proposed criteria documents, standards, limitations, or regulations provided to any other Federal agency for formal review and comment, together with relevant scientific and technical information on which the proposed action is based. The SAB may then make available to the Administrator, within the time specified by the Administrator, its advice and comments on the adequacy of the scientific and technical basis of the proposed action.

EPA's current process (Attachment A) is to provide the SAB with information about the publication of the semi-annual regulatory agenda and to provide descriptions of major planned actions that are not yet proposed but appear in the semi-annual regulatory agenda. These descriptions provide available information regarding the science informing agency actions. This process for engaging the SAB supplements the EPA's process for program and regional offices to request science advice from the SAB.

Summary of the Process Used by the SAB Work Group

The SAB Work Group followed the [process adopted by the Chartered SAB](#) in 2013¹ to initiate its review of major planned actions identified in the Unified Regulatory Agenda by EPA. The current SAB review began when the EPA Office of Policy informed the SAB Staff Office that the Spring 2018 Unified (Regulatory) Agenda and Regulatory Plan had been published on May 10, 2018. This semi-annual regulatory agenda is available at <https://www.reginfo.gov/public/do/eAgendaMain>. This SAB Work Group was formed in July 2018 and The SAB staff office requested information from program offices. The Work Group includes SAB members with broad expertise in scientific and technological issues related to the proposed actions. The Work Group consists of Drs. Alison Cullen (chair), Rodney

¹ Available at [http://yosemite.epa.gov/sab/sabproduct.nsf/WebSABSO/ProcScreen2017/\\$File/SABProtocol2017.pdf](http://yosemite.epa.gov/sab/sabproduct.nsf/WebSABSO/ProcScreen2017/$File/SABProtocol2017.pdf)

Andrews, Deborah Bennett, Bob Blanz, Todd Brewer, Tony Cox, Christopher Frey², John Graham, Merlin Lindstrom, Tom Parkerton, Richard Smith, and Mr. Richard Poirot

The Work Group considered actions in the Spring 2018 semi-annual regulatory agenda that were identified by the EPA as “major actions.” The Work Group considered several factors when assessing each proposed major action, i.e., whether the action:

- already had a planned review by the SAB or some other high level external peer review [e.g., National Academy of Sciences, Clean Air Scientific Advisory Committee, Federal Insecticide, Fungicide and Rodenticide (FIFRA) Scientific Advisory Panel];
- was primarily administrative (i.e., involved reporting or record keeping);
- was an extension of an existing initiative;
- was characterized by EPA as an influential scientific or technical work product having a major impact, or involved precedential, novel, and/or controversial issues;
- considered scientific approaches new to the agency;
- addressed an area of substantial uncertainty;
- involved major environmental risks;
- related to an emerging environmental issue; or
- exhibited a long-term outlook.

On September 17, 2018, the Work Group received information and short descriptions from the EPA Program Offices on the major planned actions that are listed in the Spring 2018 semi-annual regulatory agenda but not yet proposed. Work Group members concurred on the recommendations presented in this memorandum after a discussion on September 28, 2018 and November 19, 2018 and subsequently via email. A compiled set of the EPA descriptions of the actions and the Work Group’s recommendations are provided in Attachment B. The Work Group submitted requests for additional information on several planned actions and held a fact-finding teleconference with EPA staff on October 31, 2018. A summary of the teleconference is provided in Attachment C.

Work Group Recommendations Regarding Planned EPA Actions of Interest to the SAB

The Work Group based the recommendations below on information received from the EPA and the Work Group’s research. Of the 12 major planned actions considered, the Work Group recommends that the SAB provide advice on three of the planned actions. Two actions had insufficient information for the Work Group to make a recommendation and seven of the actions do not merit further SAB consideration.

The Work Group notes that the stage of the rulemaking for three of the planned actions is listed as long term actions. The Office of Management and Budget defines long term actions as planned actions “under development but for which the agency does not expect to have a regulatory action within the 12 months after publication of this edition of the Unified Agenda”, and notes that some of these actions may only have abbreviated information. The SAB has considered long term actions in previous reviews of the Unified Agenda, and in some cases deferred the decision on whether the planned action merits

² Dr. Frey’s term on the Science Advisory Board ended on September 30, 2018.

further review until sufficient information is available. The Work Group considered the stage of rulemaking of the planned actions in making their recommendations.

A brief summary of the Work Group findings is provided and further information on each action is available in Attachment B.

Miscellaneous Organic Chemical Manufacturing and Miscellaneous Coating Manufacturing Residual Risk and Technology Reviews (2060-AT85) and National Emission Standards for Hazardous Air Pollutants: Organic Liquids Distribution (Non-Gasoline) RTR (2060-AT86): These planned actions do not merit further review by the SAB. The EPA uses a standard process to conduct risk and technology reviews for National Emissions Standards for Hazardous Air Pollutants. This process, “Screening Methodologies to Support Risk and Technology Reviews (RTR): A Case Study Analysis (May 2017)” was reviewed by the SAB 2017 and the SAB discussions and the report are available on the SAB website:

Prevention of Significant Deterioration (PSD) and Nonattainment New Source Review (NSR): Project Emissions Accounting (2060-AT89): This planned action does not merit further review by the SAB. The SAB Work Group recognizes that this regulation is intended to codify the interpretations in the [March 13, 2018 Memorandum from the Administrator](#) and does not merit further scientific review by the SAB. The Work Group notes that the scientific and technical review of NAAQS are reviewed by the Clean Air Scientific Advisory Council and this planned action is an extension of existing initiatives and primarily administrative. The SAB has considered previous planned actions regarding the NNSR and PSD³ and found that the action did not identify new science issues and does not merit further review.

Oil and Natural Gas Sector: Emission Standards for New, Reconstructed, and Modified Sources Review (2060-AT90): The Work Group found there was insufficient information provided for this action and suggests the SAB request updates from the agency. The Work Group recommends deferring review of the planned action until sufficient information is available.

This action will focus on the challenges of regulating multiple pollutants across multiple segments of a complex industry. One challenge pointed out by the EPA is that there are often multiple entities involved in the process of extraction or delivery of oil and natural gas. The agency needs to determine how best to integrate these entities in the law. Assuming this is done in such a way that all potential emission points are considered, this component of the action does seem likely to be a policy decision.

The second component of the proposed action is to evaluate the methods by which multiple pollutants are considered. The agency notes that many control actions reduce emissions of multiple pollutants. It appears that one of the goals is to somehow streamline the process such that fewer compounds are evaluated. While the Work Group agrees that there is a policy component to this, there is also an important science component. The methods for selecting proxy compounds to evaluate, or otherwise reducing the number of compounds tracked, must be done in consideration of the relative health impacts of the various compounds, as well as potentially accounting for exposures to mixtures of compounds with similar actions. The Agency also notes there will be analysis involving costs and benefits. The determination of costs and benefits involves the science linking emissions to health impacts. It is not

³ See the Fall 2012 Regulatory Review and [Work Group memorandum page c-18](#)

clear if the same science will be used as in the original regulation, or if changes will be proposed. If changes are proposed, this would involve scientific evaluations.

The Work Group does not have complete information in regard to the agency's plans, and therefore requests that the Board continue to track this action to determine if it should be reviewed when more information becomes available. We note that the EPA schedule for the planned action listed the Notice of Proposed Rule Making for December 2018.

Renewable Fuel Volume Standards for 2019 and Biomass Based Diesel Volume (BBD) for 2020 (2060-AT93): This action does not merit further consideration for review by the SAB. Overall, Renewable Fuel Standards regulation is an activity covered under Section 211(o) of the CAA 2007, with the adoption of revisions in 2010 following amendments enacted as part of the 2007 Energy Independence and Security Act. Since 2007 EPA has promulgated annual rules to translate renewable fuel volumes into percentage standards reflecting the upcoming year's projection of gas and diesel demand. In 2014 for the first time the agency used its waiver authority to set applicable volumes below statutory levels as a result of the projected unavailability of some types of fuels, as well as constraints on supply. In advance of the 2014 waiver, the SAB reviewed the action as part of the Spring 2013 Regulatory Agenda and concluded that it did not merit further consideration. The current action is considered a routine and recurring action relying on the same approach and data sources.

Mercury and Air Toxics Standards for Power Plants Residual Risk and Technology Review and Cost Review (2060-AT99): This action merits review by the SAB. The Work Group notes that the action is a National Emission Standard for Hazard Air Pollutants undergoing an 8-year review required by the Clean Air Act (Risk and Technology Review). The Work Group finds that the specifics of the planned action merit review rather than deference to the standard RTR review approach.

This planned action is in response to a Supreme Court decision regarding the Mercury and Air Toxics Standards (MATS). In its ruling, the Court found that EPA did not consider cost in its "appropriate and necessary" finding supporting the MATS. In this planned action, EPA is considering whether cost of MATS compliance is reasonable when weighed against the health benefits of the rule. Per the EPA, there are no new scientific work products associated with this action. The proposal relies on existing information in the MATS rulemaking administrative record. For example, and perhaps most notably, the action relies on the existing Regulatory Impact Analysis.

The proposed action has different aspects that relate to science, policy and the law. In particular, it appears that the final disposition of the rule will depend at least in part on a court decision on the so-called co-benefits rule (i.e., that EPA includes in its cost assessment benefits due to reductions in particular matter and nitrogen dioxide as well as mercury). While the policy and legal aspects are not within the purview of SAB, SAB should provide scientific advice on the cost estimates under a variety of scenarios that both include and exclude the co-benefits to support that appropriate consideration of cost is incorporated into the new assessment. Furthermore, the SAB may provide advice on deficiencies in the cost assessment methodology that contributed to the Supreme Court ruling. . It would be of interest to know exactly how EPA determines what is a direct benefit and what is a co-benefit, and how it handles different types of human health outcomes (e.g. how to calculate the relative costs of missed work days, hospitalizations, and deaths).

A major part of the proposed action is a Residual Risk and Technology Review (RTR). It is stated that “no new scientific work products will be developed...”, essentially because the methodology has been previously developed and undergone peer review. One member of the SAB Workgroup has commented that the SAB should not review actions that follow a prescribed methodology which has undergone scientific review. However, other members of the Work Group, note the distinction between the methodology used to conduct a review and the results of that review. These Work Group members find that the SAB should review whether the methodology has been correctly applied in this case.

Regarding the MATS Supplemental Cost Finding, it is stated that this “will not involve scientific work products” and in further responses by the SAB Staff Office, “EPA’s review ... is not based on new scientific data.” Some members of the Work Group note that these statements only reinforce the need for SAB to conduct its own scientific analysis⁴. However, another member notes that this action does appear to involve new scientific work products and data (e.g., expanding the methodology to better consider cost, designating or applying “direct benefit” and “co-benefit” definitions or how health outcomes are considered in this context) and this requires a scientific review that is not planned by EPA.

It is unclear whether “peer review” (under 6(d)) refers to the work of the SAB, but we believe such peer review should be undertaken by SAB unless there are plans for this to be accomplished by another body. EPA can credibly claim to have assessed the risks and costs of the new rule only if there is a rigorous and robust peer review provided.

Rulemaking to Establish Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy (2060-AU09): This action does not warrant further review provided the EPA and CARB agree on a rule harmonized across the US. If, however, the EPA and CARB cannot agree on a harmonized rule, then the SAB is ready to review pertinent scientific data in the different rules. The Work Group conducted a non-public fact-finding meeting with EPA staff. A summary of the discussions and the EPA’s responses to the Work Group’s questions are provided in Attachment C of this memorandum.

In this proposal, the EPA is relying on the technical analysis performed by NHTSA which is the basis of the joint proposed standards for both CAFÉ and light-duty truck GHG standards. EPA developed extensive data, models and reports leading up to the Mid Term Evaluation, including a comprehensive Technical Assessment Report. Regardless of whether EPA relies on its own staff and analysis, or references another agency, EPA has an obligation to base its own rulemaking on appropriately reviewed scientific and technical work products.

Strengthening Transparency in Regulatory Science (2080-AA14): The SAB informed Administrator Pruitt that they wish to provide advice on this planned action in a [June 28, 2018 letter](#). A SAB Work Group met by teleconference on May 3, 2018, to discuss its recommendations on major planned actions in the Fall 2017 semi-annual regulatory agenda and included the proposed rule Strengthening

⁴ Note to members: The EPA previously considered Considering Cost in the Appropriate and Necessary Finding for the Mercury and Air Toxics Standards (MATS) (RIN 2060-AS76). The agency re-evaluated the MATS in response to a US Supreme Court decision. The agency sought public comment but did not develop any new scientific data for the action. The Work Group noted the action was supported by a SAB peer review of the Mercury Risk Assessment and the NESHAP was included in the SAB review of the Fall 2015 Regulatory Agenda. Based on the review of the Mercury Risk Assessment and the RTR Risk assessment methodologies as technical support for the MATS, the SAB agreed with the Work Group and found the action did not merit further SAB consideration. See page B22-24.

Transparency in Regulatory Science (RIN 2080-AA14) as part of the discussion. That Work Group provided the SAB with a memorandum documenting the discussion and recommending that the proposed rule merits review by the SAB. More information is available on the SAB webpage [here](#).

Updates to Wet Weather Treatment Regulations for POTWs (2040-AF81): The Work Group notes that there was insufficient information provided for this action and suggests the SAB request updates from the agency. The Work Group recommends deferring review of the planned action until sufficient information is available. The Work Group conducted a non-public fact-finding meeting with EPA staff. A summary of the discussions and the EPA's responses to the Work Group's questions are provided in Attachment C of this memorandum.

The SAB Work Group recognizes that this regulation concerns the long-standing issue of regulatory management of wet weather flows at Publicly Owned Treatment Works (POTWs). These wet weather events have the potential to physically damage the facilities and/or "wash-out" the biological systems thereby impacting future operations. The development of the regulation is in its early stages as the agency has just completed stakeholder group meetings and gathering additional information. The SAB Work Group finds that this regulation, by necessity, will include process engineering and public health considerations and merits further consideration when additional information is available

Clean Water Act Section 404 Assumption Update Regulation (2040-AF83): The action does not merit further review by the SAB. Rationale: The SAB Work Group recognizes that this regulation is largely procedural and administrative as the 404/401 program is well established and does not merit review by the SAB.

Treatment of Biogenic CO₂ Emissions Under the Clean Air Act Permitting Programs (2060-AU03): This planned action does not merit further review by the SAB. The proposed action relies on a policy position and does not involve any new science in this action. The [EPA's Treatment of Biogenic Carbon Dioxide \(CO₂\) Emissions from Stationary Sources that Use Forest Biomass for Energy Production](#) was issued on April 23, 2018. The Work Group notes that the policy statement acknowledges the scientific complexity of the topic, the SAB's on-going work on [biogenic carbon emissions](#) and states that the "policy is not a scientific determination and does not revise or amend any scientific determinations that EPA has previously made." The Work Group received written responses from the EPA program office which are summarized in Attachment C of this memorandum.

General National Ambient Air Quality Standards Implementation Update Rule (2060-AU10): This planned action does not merit further review. The EPA describes this action as a placeholder for "one or more potential proposed rulemakings to address NAAQS implementation-related policies determined by the Administrator as necessary to fully realize the benefits of strategies to streamline and reduce burden, and in response to adverse court decisions." The EPA has not determined whether the planned action has "an influential scientific or technical work product" that "has a major impact, involves precedential, novel, and/or controversial issues, or the Agency has a legal and/or statutory obligation to conduct a peer review.

The Work Group notes that planned actions in this agenda and previous agendas addressed implementation of the NAAQS. In this regulatory agenda the Work Group found that a similar action, "*Prevention of Significant Deterioration (PSD) and Nonattainment New Source Review (NSR): Project*

Emissions Accounting Proposed Rulemaking (RIN 2060-AT89), did not merit further review. Other planned actions that address the implementation of the NAAQS are listed in Attachment B

Table 1 identifies the 12 planned actions reviewed and summarizes the Work Group’s recommendations. Attachment B provides the EPA’s descriptions of the planned actions, and the SAB Work Group’s recommendation for each of the planned actions with the supporting rationales.

Table 1: Summary of Proposed Actions that the SAB Work Group Considered for Additional SAB Comment on the Supporting Science		
RIN¹	Planned Action Title	Workgroup Recommendation
2060-AT85	Miscellaneous Organic Chemical Manufacturing and Miscellaneous Coating Manufacturing Residual Risk and Technology Reviews	No further SAB consideration is merited.
2060-AT86	National Emission Standards for Hazardous Air Pollutants: Organic Liquids Distribution (Non-Gasoline) RTR	No further SAB consideration is merited.
2060-AT89	Prevention of Significant Deterioration (PSD) and Nonattainment New Source Review (NSR): Project Emissions Accounting	No further SAB consideration is merited.
2060-AT90	Oil and Natural Gas Sector: Emission Standards for New, Reconstructed, and Modified Sources Review	Defer a determination until sufficient information is available
2060-AT93	Renewable Fuel Volume Standards for 2019 and Biomass Based Diesel Volume (BBD) for 2020	No further SAB consideration is merited.
2060-AT99	Mercury and Air Toxics Standards for Power Plants Residual Risk and Technology Review and Cost Review	Merits review by the SAB
2060-AU09	Rulemaking to Establish Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy	Merits review by the SAB
2080-AA14	Strengthening Transparency in Regulatory Science ⁵	Merits review by the SAB
2040-AF81	Updates to Wet Weather Treatment Regulations for POTWs	Defer a determination until sufficient information is available
2040-AF83	Clean Water Act Section 404 Assumption Update Regulation	No further SAB consideration is merited.

⁵ At its May 31, 2018 meeting the Chartered SAB discussed and identified this action ([Strengthening Transparency in Regulatory Science 2080-AA14](#)) as a planned action the SAB wishes to provide comment and advice on. The SAB sent a letter to Administrator Pruitt, available [here](#). The SAB will be discussing this proposed action as a specific project and not part of the Spring 2018 Regulatory Deregulatory Agenda.

Table 1: Summary of Proposed Actions that the SAB Work Group Considered for Additional SAB Comment on the Supporting Science		
RIN¹	Planned Action Title	Workgroup Recommendation
2060-AU03	Treatment of Biogenic CO2 Emissions Under the Clean Air Act Permitting Programs	No further SAB consideration is merited.
2060-AU10	General National Ambient Air Quality Standards Implementation Update Rule	No further SAB consideration is merited.
¹ The Regulatory Identification Number provides a hyperlink to the Office of Management and Budget’s webpage and information on the planned action provided in the Unified Regulatory Agenda on the OMB website http://www.reginfo.gov/		

Work Group Recommendations Regarding Improvements to the Process for Identifying EPA Planned Actions for SAB Consideration

The Work Group thanks the EPA for providing information for consideration but emphasizes that the SAB requires more complete and timely information from the agency to make recommendations and decisions regarding the science supporting planned actions. To improve the process for future review of the semi-annual regulatory agenda, the SAB Work Group strongly recommends that EPA enhance descriptions of future planned actions by providing specific information on the peer review associated with the science basis for actions and more description of the scientific and technological bases for the actions. In reviewing the Spring 2018 Regulatory Agenda, there were several cases where key information about the planned action, its supporting science and peer review were provided only after specific work group requests. The Work Group finds that the responses to fact finding questions were not comprehensive and participation in the scheduled teleconference was limited. EPA should provide such information in the initial descriptions provided to the work group.

Effective SAB evaluation of planned actions requires the agency to characterize:

- All relevant key information associated with the planned action;
- The science supporting the regulatory action. If there is new science to be used, provide a description of what is being developed. If the agency is relying on existing science, provide a short description.
- The nature of planned or completed peer review. To the extent possible, provide information about the type of peer review, the charge questions provided to the reviewers, how relevant peer review comments were integrated into the planned action, and information about the qualifications of the reviewer(s).

This SAB made several of these recommendations in previous reviews. We request that the chartered SAB highlight to the Administrator the need for the Agency to provide more complete information to support future SAB decisions about the adequacy of the science supporting actions in future regulatory agendas.

Attachments

Attachment A: Implementation Process for Identifying EPA Planned Actions for SAB Consideration

Discussions of EPA Planned Agency Actions and their Supporting Science in the Spring 2018 Regulatory Agenda

Attachment B: SAB Work Group Recommendations on Major EPA Planned Actions Identified in the Spring 2018 Semi-Annual Regulatory Agenda.

Attachment C: Summary of the October 31, 2018 Fact-Finding Teleconference

Attachment A

Implementation Process for Identifying EPA Planned Actions for SAB Consideration

Background on the EPA Process

- ◆ The Environmental Research, Development, and Demonstration Authorization Act of 1978 (ERDDAA, see p. 4)
 - ◆ Requires the EPA to make available to the SAB proposed criteria documents, standards, limitations, or regulations provided to any other Federal agency for formal review and comment together with relevant scientific and technical information in the possession of the agency on which the proposed action is based.
 - ◆ States that the Board may make available to the Administrator, within the time specified by the Administrator, its advice and comments on the adequacy of the scientific and technical basis of the proposed actions.
- ◆ In January 2012, Office of Policy Associate Administrator Michael Goo issued a memorandum to strengthen coordination with the SAB by providing the Board with information about *proposed* agency actions. (see page p. 9)
- ◆ In February 2012, SAB Staff developed an initial proposal to provide the SAB with information about *proposed* agency actions.
 - ◆ EPA Senior Leadership concluded that providing information to the SAB for consideration at the proposal stage was *too late* in the process for meaningful involvement.
- ◆ In March 2012, the SAB held a public meeting and discussed the Goo memo and a pilot to consider the science underlying four proposed rules identified by OAR (standards for air toxics from boilers and incinerators and greenhouse gas emissions and fuel economy standards for light-duty vehicles).
 - ◆ The SAB:
 - ◆ Did not identify any science topics related to the four proposed rules warranting SAB comment.
 - ◆ Noted that the proposal stage was *too late* in the process for meaningful input.
 - ◆ Discussed the need for adequate information on the underlying science for agency actions early in the process. Information beyond the information presented in the Semiannual Regulatory Agenda is needed for this purpose.
- ◆ On January 2, 2013, Associate Administrator Michael Goo, the Administrator’s Science Advisor Glenn Paulson, and the SAB Office Director Vanessa Vu issued a memorandum (see p. 10) “Identifying EPA Planned Actions for Science Advisory Board (SAB) Consideration of the Underlying Science – Semi-annual Process” requiring EPA to provide short descriptions of *major planned actions that are not yet proposed* appearing in the semi-annual regulatory agenda

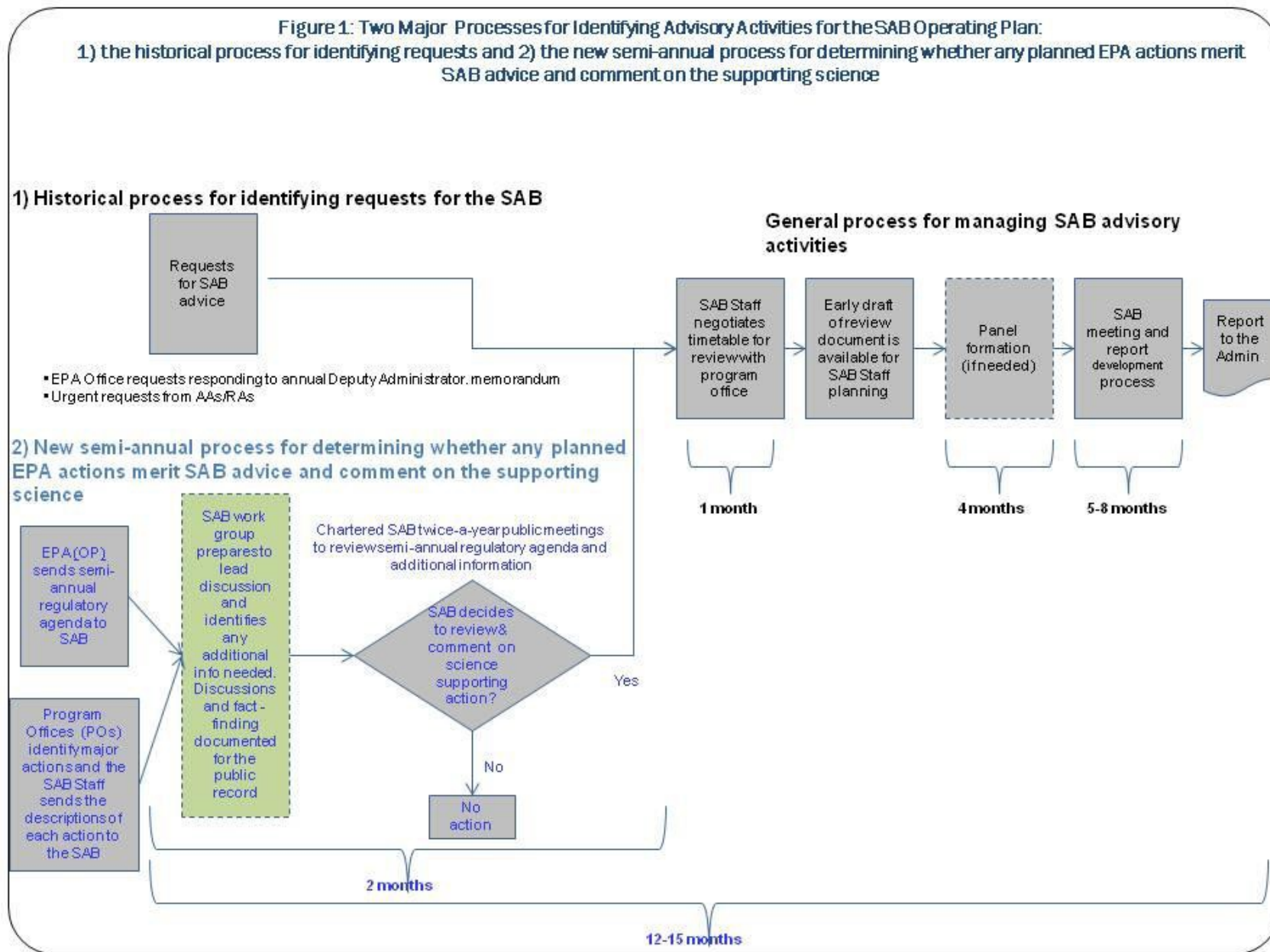
Attachment A: Identifying EPA Planned Actions for SAB Consideration

- ◆ This process supplements the Deputy Administrator's annual memorandum requesting program and regional offices to identify scientific issues that might be appropriate for SAB consideration.

SAB Process

- ◆ The SAB Staff manages the semi-annual process for determining whether any planned EPA actions merit SAB advice and comment on the supporting science as part of the entire SAB operating plan (see Figure 1).

Attachment A: Identifying EPA Planned Actions for SAB Consideration



**Environmental Research, Development, and Demonstration Authorization Act
[(ERDDAA), 42 U.S.C. 4365]**

TITLE 42--THE PUBLIC HEALTH AND WELFARE

CHAPTER 55--NATIONAL ENVIRONMENTAL POLICY

SUBCHAPTER III--MISCELLANEOUS PROVISIONS

Sec. 4365. Science Advisory Board

(a) Establishment; requests for advice by Administrator of Environmental Protection Agency and Congressional committees

The Administrator of the Environmental Protection Agency shall establish a Science Advisory Board which shall provide such scientific advice as may be requested by the Administrator, the Committee on Environment and Public Works of the United States Senate, or the Committee on Science, Space, and Technology, on Energy and Commerce, or on Public Works and Transportation of the House of Representatives.

(b) Membership; Chairman; meetings; qualifications of members

Such Board shall be composed of at least nine members, one of whom shall be designated Chairman, and shall meet at such times and places as may be designated by the Chairman of the Board in consultation with the Administrator. Each member of the Board shall be qualified by education, training, and experience to evaluate scientific and technical information on matters referred to the Board under this section.

(c) Proposed environmental criteria document, standard, limitation, or regulation; functions respecting in conjunction with Administrator

(1) The Administrator, at the time any proposed criteria document, standard, limitation, or regulation under the Clean Air Act [42 U.S.C. 7401 et seq.], the Federal

Attachment A: Identifying EPA Planned Actions for SAB Consideration

Water Pollution Control Act [33 U.S.C. 1251 et seq.], the Resource Conservation and Recovery Act of 1976 [42 U.S.C. 6901 et seq.], the Noise Control Act [42 U.S.C. 4901 et seq.], the Toxic Substances Control Act [15 U.S.C. 2601 et seq.], or the Safe Drinking Water Act [42 U.S.C. 300f et seq.], or under any other authority of the Administrator, is provided to any other Federal agency for formal review and comment, shall make available to the Board such proposed criteria document, standard, limitation, or regulation, together with relevant scientific and technical information in the possession of the Environmental Protection Agency on which the proposed action is based.

(2) The Board may make available to the Administrator, within the time specified by the Administrator, its advice and comments on the adequacy of the scientific and technical basis of the proposed criteria document, standard, limitation, or regulation, together with any pertinent information in the Board's possession.

(d) Utilization of technical and scientific capabilities of Federal agencies and national environmental laboratories for determining adequacy of scientific and technical basis of proposed criteria document, etc.

In preparing such advice and comments, the Board shall avail itself of the technical and scientific capabilities of any Federal agency, including the Environmental Protection Agency and any national environmental laboratories.

(e) Member committees and investigative panels; establishment; chairmanship

The Board is authorized to constitute such member committees and investigative panels as the Administrator and the Board find necessary to carry out this section. Each such member committee or investigative panel shall be chaired by a member of the Board.

(f) appointment and compensation of secretary and other personnel; compensation of members

Attachment A: Identifying EPA Planned Actions for SAB Consideration

(1) Upon the recommendation of the Board, the Administrator shall appoint a secretary, and such other employees as deemed necessary to exercise and fulfill the Board's powers and responsibilities. The compensation of all employees appointed under this paragraph shall be fixed in accordance with chapter 51 and subchapter III of chapter 53 of title 5.

(2) Members of the Board may be compensated at a rate to be fixed by the President but not in excess of the maximum rate of pay for grade GS-18, as provided in the General Schedule under section 5332 of title 5.

(g) Consultation and coordination with Scientific Advisory Panel

In carrying out the functions assigned by this section, the Board shall consult and coordinate its activities with the Scientific Advisory Panel established by the Administrator pursuant to section 136w(d) of title 7.

(Pub. L. 95-155, Sec. 8, Nov. 8, 1977, 91 Stat. 1260; Pub. L. 96-569, Sec. 3, Dec. 22, 1980, 94 Stat. 3337; Pub. L. 103-437, Sec. 15(o), Nov. 2, 1994, 108 Stat. 4593; Pub. L. 104-66, title II, Sec. 2021(k)(3), Dec. 21, 1995, 109 Stat. 728.)



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON D.C. 20460**

2

OFFICE OF THE ADMINISTRATOR

MEMORANDUM

SUBJECT: Identifying EPA Planned Actions for Science Advisory Board (SAB)
Consideration of the Underlying Science- Semi-annual Process

FROM: Michael Goo, Associate Administrator
Office of Policy

Glenn Paulson
Science Advisor

Vanessa Vu, Director
SAB Staff Office

TO: General Counsel
Assistant Administrators
Associate Administrators
Regional Administrators

The purpose of this memorandum is to provide guidance for implementing improved coordination with the SAB, the goal of the memorandum dated January 19, 2012 on that topic (Attachment A).

We ask that you work with the Office of Policy to provide the SAB Staff Office with information about the science supporting major planned agency actions (Tier 1 and Tier 2 actions) that are in the pre-proposal stage. The *2012 Unified (Regulatory) Agenda and Regulatory Plan* was published on December 21, 2012 on the Office of Management and Budget web site <http://www.reginfo.gov/public/>.

Please provide the SAB Staff Office (contact: Angela Nugent) by January 30, 2013, a brief description of each action along with its supporting science, following the format provided in Attachment B. Please ensure that these submissions to the SAB are consistent with information developed in the action development process.

This process supplements the Deputy Administrator's annual memorandum requesting program and regional offices- to identify scientific issues that might be appropriate for SAB consideration.

Attachment A: Identifying EPA Planned Actions for SAB Consideration

We look forward to working with you on this new process to strengthen science supporting EPA's decisions. Please contact us or Caryn Muellerleile (202-564-2855) in the Office of Policy or Angela Nugent (202-564-2218) in the SAB Staff Office, should there be questions.

Attachments

cc: Administrator
Deputy Administrator
Chief of Staff
Deputy Chief of Staff

Attachment A: January 19, 2012 Memorandum from Michal L. Goo



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

JAN 19 2012

OFFICE OF
POLICY

MEMORANDUM

SUBJECT: Coordination with the Science Advisory Board Regarding Proposed Criteria Documents, Standards, Limitations and Regulations

FROM: Michael L. Goo, Associate Administrator *MLG*
Office of Policy

TO: Assistant Administrators
General Counsel
Chief of Staff
Associate Administrators
Regional Administrators

This is to confirm the procedures that we have discussed regarding coordination with the Science Advisory Board (SAB) on the science and technical information underlying the EPA's proposed criteria documents, standards, limitations and regulations.

In addition to the current process by which program offices identify actions on which they plan to seek advice from the SAB on scientific and technical issues, OP will semiannually inform the SAB, through the SAB Staff Office, of upcoming proposed actions. This process will focus on those proposed regulations, criteria documents, standards or limitations that undergo interagency review and will operate as follows:

1. OP will submit to the SAB staff office a list, based on the Agency's *Semiannual Regulatory Agenda (Regulatory Agenda)*, augmented as necessary, of upcoming proposed regulations, criteria documents, standards or limitations that are expected to undergo interagency review. OP will work with program and regional offices to ensure that any actions not listed in the *Regulatory Agenda* that nevertheless are expected to be submitted for interagency review are included in this submission. For any of these additional actions, offices should provide a description similar to that provided for actions included in the *Regulatory Agenda*.

Attachment A: Identifying EPA Planned Actions for SAB Consideration

2. Program and Regional offices will notify the SAB staff office when proposed Agency actions that undergo interagency review become formally available for public review and comment. EPA programs are also expected to provide additional information as requested by the SAB Staff Office to facilitate the SAB's consideration of this information.

If the SAB decides to review and, as appropriate, comment on the scientific and technical basis for a proposed action, OP will work with the SAB Staff Office and the relevant program or regional office to establish the appropriate time frame for SAB review and comment.

Thank you for your assistance in adhering to this process. If you have any questions or concerns, please contact me, or your staff can contact Nicole Owens owens.nicole@epa.gov, at 202 (564-1550).

cc: Bob Perciasepe
Bob Sussman
Deputy Assistant Administrators
Deputy Associate Administrators
Deputy Regional Administrators
Assistant Regional Administrators
Alex Cristofaro
Nicole Owens
Vanessa Wu
Thomas Brennan

**Attachment B - Sample Description of Major Planned EPA Action-
Information to be Provided to the SAB**

Name of action: Development of Best Management Practices for Recreational Boats Under Section 312(o) of the Clean Water Act

EPA Office originating action: OW

Brief description of action and statement of need for the action:

This action is for the development of regulations by EPA to implement the Clean Boating Act (Public Law 110-288), which was signed by the President on July 29, 2008. The Clean Boating Act amends section 402 of the Clean Water Act (CWA) to exclude recreational vessels from National Pollutant Discharge Elimination System permitting requirements. In addition, it adds a new CWA section 312(o) directing EPA to develop regulations that identify the discharges incidental to the normal operation of recreational vessels (other than a discharge of sewage) for which it is reasonable and practicable to develop management practices to mitigate adverse impacts on waters of the United States. The regulations also need to include those management practices, including performance standards for each such practice. Following promulgation of the EPA performance standards, new CWA section 312(o) directs the Coast Guard to promulgate regulations governing the design, construction, installation, and use of the management practices. Following promulgation of the Coast Guard regulations, the Clean Boating Act prohibits the operation of a recreational vessel or any discharge incidental to their normal operation in waters of the United States and waters of the contiguous zone (i.e., 12 miles into the ocean), unless the vessel owner or operator is using an applicable management practice meeting the EPA-developed performance standards.

Timetable:

Statutory: Phase 1 - 2009, Phase 2 - 2010, and Phase 3 – 2011
Regulatory Agenda: Phase 1 NPRM - 2013, Phase 1FR - 2014

Does the action rely on science that meets the EPA *Peer Review Handbook* definition of "an influential scientific or technical work product" that "has a major impact, involves precedential, novel, and/or controversial issues, or the Agency has a legal and/or statutory obligation to conduct a peer review?"

No

Scientific questions to be addressed and approach:

Recreational boating activities can contribute to the spread of aquatic nuisance species, primarily through the secondary transport of organisms introduced to U.S. waters via other vectors. For example, recreational boating has been linked to the spread of Zebra and Quagga mussels from their initial introduction into the Great Lakes to other U.S. waters. Consequently, the Agency is considering the development of regulations designed to reduce the spread of such organisms by reducing propagule pressure from the recreational vessel vectors. Propagule pressure is a measure

Attachment A: Identifying EPA Planned Actions for SAB Consideration

of the number of individual organisms released as well as the number of discrete release events. While there is a general consensus that an increase in propagule pressure increases the probability of establishing a self-sustaining population of an aquatic nuisance species, the probability is a complex function of a wide range of variables. These variables include species traits (e.g., viability, reproductive capability, and environmental compatibility) and environmental traits (e.g., retention of propagules, and interactions with resident species). When addressing secondary transport via recreational vessels, as this project is designed to specifically do, additional variables such as vessel characteristics, voyage type, and propagule exposure need to be considered. Due to the complexity of this issue, the Agency is seeking expert scientific opinions on management practices that can reduce propagule pressure that results from recreational boating activities.

Plans for scientific analyses and peer review:

The Agency is planning to convene a workshop on secondary transport of aquatic nuisance species via recreational vessels. Invited participants will have expertise in the field of invasion biology and each participant will be charged to provide their expert scientific opinion on management practices that the Agency should consider as part of this rule making.

Attachment B
SAB Work Group Recommendations on
Major Actions in the Spring 2018
Unified Agenda of Regulatory and Deregulatory Agenda
April 25, 2019

<u>RIN</u>	<u>Office</u>	<u>Stage of Rulemaking</u>	<u>Title</u>	<u>Page</u>
2060-AT85	OAR	Proposed Rule Stage	Miscellaneous Organic Chemical Manufacturing and Miscellaneous Coating Manufacturing Residual Risk and Technology Reviews	2
2060-AT86	OAR	Proposed Rule Stage	National Emission Standards for Hazardous Air Pollutants: Organic Liquids Distribution (Non-Gasoline) RTR	7
2060-AT89	OAR	Proposed Rule Stage	Prevention of Significant Deterioration (PSD) and Nonattainment New Source Review (NSR): Project Emissions Accounting	12
2060-AT90	OAR	Proposed Rule Stage	Oil and Natural Gas Sector: Emission Standards for New, Reconstructed, and Modified Sources Review	16
2060-AT93	OAR	Proposed Rule Stage	Renewable Fuel Volume Standards for 2019 and Biomass Based Diesel Volume (BBD) for 2020	21
2060-AT99	OAR	Proposed Rule Stage	Mercury and Air Toxics Standards for Power Plants Residual Risk and Technology Review and Cost Review	27
2060-AU09	OAR	Proposed Rule Stage	Rulemaking to Establish Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy	33
2080-AA14	ORD	Proposed Rule Stage	Strengthening Transparency in Regulatory Science ¹	38
2040-AF81	OW	Long-Term Actions	Updates to Wet Weather Treatment Regulations for POTWs	39
2040-AF83	OW	Long-Term Actions	Clean Water Act Section 404 Assumption Update Regulation	42
2060-AU03	OAR	Long-Term Actions	Treatment of Biogenic CO2 Emissions Under the Clean Air Act Permitting Programs	45
2060-AU10	OAR	Long-Term Actions	General National Ambient Air Quality Standards Implementation Update Rule	49

¹ At its May 31, 2018 meeting the Chartered SAB discussed and identified this action ([Strengthening Transparency in Regulatory Science 2080-AA14](#)) as one the SAB wishes to provide comment and advice on. The SAB sent a letter to Administrator Pruitt, available [here](#). The Work Group will not be discussing this action.

EPA Description of Planned Action

- 1. Name of action:** National Emission Standards for Hazardous Air Pollutants: Miscellaneous Organic Chemical Manufacturing Residual Risk and Technology Review
- 2. RIN Number:** 2060-AT85
- 3. EPA Office originating action:** Office of Air and Radiation/Office of Air Quality Planning and Standards/Sector Policies and Programs Division
- 4. Brief description of action and statement of need for the action:** This action will address the agency's residual risk and technology review (RTR) of the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Miscellaneous Organic Chemical Manufacturing. The Miscellaneous Organic Chemical Manufacturing NESHAP (MON), 40 CFR part 63, subpart FFFF, was promulgated pursuant to section 112(d) of the Clean Air Act (CAA) on November 10, 2003. The NESHAP established emission limitations and work practice requirements based on maximum achievable control technology (MACT) for controlling emissions of hazardous air pollutants (HAP) from continuous process vents, batch process vents, storage tanks, equipment leaks, wastewater streams, transfer racks and heat exchange systems. The HAP emitted from these sources include, but are not limited to, toluene, methanol, xylene, hydrogen chloride and methylene chloride.

This action will implement the residual risk review requirements of CAA section 112(f)(2) and the technology review requirements of CAA section 112(d)(6). The statute directs the EPA to promulgate emission standards under CAA 112(f)(2) if such standards are required to provide an ample margin of safety to protect public health or to prevent, taking relevant factors into account, an adverse environmental effect. Any such standards are to be promulgated within 8 years after promulgation of MACT standards under CAA section 112(d). CAA section 112(d)(6) requires the EPA to review and revise the MACT standards as necessary, taking into account developments in practices, processes and control technologies, no less often than every 8 years.

- 5. Timetable:** Pursuant to a court order, the EPA is obligated to complete the Miscellaneous Organic chemical Manufacturing NESHAP (MON) final action by March 13, 2020. In consideration of this deadline, which also applies to 19 other RTR source categories, we established an internal schedule for this RTR to be proposed and finalized prior to the court order deadline. The EPA currently plans to complete the proposal by February 15, 2019, and final rule by March 11, 2020.
- 6. Scientific products that will inform the action and plans for peer review:**

6(a). Describe the scientific work products that have been or will be developed to inform decisions regarding the planned action.

The risk analysis methodologies associated with the RTR process have undergone scientific peer reviews. There are no other scientific work products that have been or will be developed to inform this planned action.

6(b). For each work product, describe the approach the agency is taking to develop the needed science or analysis (e.g., any inter-agency collaboration, workshops to inform the analysis).

Because RTR assessments are used for regulatory purposes, and because components of our risk analyses have evolved over time, EPA has, over the course of the program, conducted scientific peer reviews of the methodologies through the Science Advisory Board (SAB). Through peer review of the RTR process as a whole, rather than each individual rulemaking effort, the agency is able to conduct consistent risk characterizations across all categories of industrial sources. As described above, the EPA also conducts a technology review to account for developments in practices, processes and control technologies.

With regard to the technology review, EPA intends to use the process outlined in the May 31, 2018, presentation to the full SAB. EPA does not anticipate the need to develop new scientific or technical information as part of this review.

6(c). For each work product, identify whether the action relies on science that meets the EPA Peer Review Handbook definition of "an influential scientific or technical work product" that "has a major impact, involves precedential, novel, and/or controversial issues, or the Agency has a legal and/or statutory obligation to conduct a peer review?"

While the overall RTR risk assessment methods meet the definition of "an influential scientific or technical work product," each individual RTR analysis does not fit this definition.

6(d). Peer review:

Each RTR analysis follows a consistent risk characterization approach using methodologies that have undergone numerous peer reviews. Previous peer reviews have covered elements associated with the RTR process, or assessments with similar scopes or contexts. A brief summary of each peer review is provided:

- 1) The Residual Risk Report to Congress, a document describing the agency's overall analytical and policy approach to setting residual risk standards, was issued to Congress in 1999 following an SAB peer review. Many of the design features of the RTR assessment methodology were described in this report, although individual elements have been improved over time. The final SAB advisory is available at: https://www3.epa.gov/ttn/atw/risk/risk_rep.pdf.
- 2) A peer review of multi-pathway risk assessment methodologies for RTR was conducted by the EPA's SAB in 2000. The final SAB advisory is available at: [http://yosemite.epa.gov/sab/sabproduct.nsf/1F1893E27059DB55852571B9004730F7/\\$File/ecadv05.pdf](http://yosemite.epa.gov/sab/sabproduct.nsf/1F1893E27059DB55852571B9004730F7/$File/ecadv05.pdf).

- 3) A consultation on EPA's updated methods for developing emissions inventories and characterizing human exposure was conducted by SAB in December 2006. SAB provided its formal consultation in a letter to the Administrator in June 2007. The final SAB advisory is available at:
[https://yosemite.epa.gov/sab/sabproduct.nsf/33152C83D29530F08525730D006C3ABF/\\$File/sab-07-009.pdf](https://yosemite.epa.gov/sab/sabproduct.nsf/33152C83D29530F08525730D006C3ABF/$File/sab-07-009.pdf).
- 4) A review of the updated and expanded risk assessment approaches and methods used in the RTR program was completed in 2009. This methodology was highlighted to the SAB utilizing two RTR source categories: Petroleum Refining Sources MACT I and Portland Cement Manufacturing. The final SAB advisory is available at:
<https://yosemite.epa.gov/sab/sabproduct.nsf/0/b031ddf79cfffed38525734f00649caf!OpenDocument&TableRow=2.3#2>.
- 5) The individual dose-response assessment values used in the RTR assessment have themselves been the subject of peer reviews through the agencies that developed them (including EPA, through its Integrated Risk Information System, or IRIS; the California Environmental Protection Agency, or CalEPA, and the Agency for Toxic Substances and Disease Registry, or ATSDR).
- 6) EPA is currently seeking the Science Advisory Board's (SAB) input on specific enhancements made to our risk assessment methodologies, particularly with respect to screening methodologies, since the last SAB review was completed in 2009 (see #4 above). In May 2017, EPA submitted a report describing the updated risk screening methodologies to the SAB for review. In June 2017, the SAB expert panel met to discuss the new methodologies. In May 2018 the SAB completed the quality review of the Draft SAB report, "Review of EPA's Screening Methodologies to Support Risk and Technology Reviews (RTR): A Case Study Analysis." The final SAB report was transmitted to the EPA on September 13, 2018.

SAB Work Group Recommendation on Planned Action

Name of planned action: Miscellaneous Organic Chemical Manufacturing and Miscellaneous Coating Manufacturing Residual Risk and Technology Reviews (RIN 2060-AT85)

Please respond to the following questions based on the short description EPA provided for the planned action.

	Yes	No
Is the action planned or under review by the SAB? If not, has EPA identified other high-level external peer review (i.e., by the NAS, CASAC, or FIFRA SAP)?		X
Is the action primarily administrative (i.e., involve reporting or record keeping)?		X
Has EPA characterized the action as one that has "an influential scientific or technical work product" that "has a major impact, involves precedential, novel, and/or controversial issues, or the Agency has a legal and/or statutory obligation to conduct a peer review?"		X
Is the action an extension of an existing initiative?	X	

Please indicate whether the action merits a high, medium or low level of interest regarding the following historical SAB science- and problem-driven criteria, based on the short description EPA provided for the planned action.

	High	Medium	Low
Involves scientific approaches that are new to the agency			X
Addresses areas of substantial uncertainties			X
Involves major environmental risks			X
Relates to emerging environmental issues		X	
Exhibits a long-term outlook		X	

Please provide a recommendation regarding whether the SAB should consider this action for review and comment on the adequacy of the supporting science and provide a brief rationale.

Recommendation: This planned action does not merit further review by the SAB.

Background: The EPA uses a standard process to conduct risk and technology reviews for National Emissions Standards for Hazardous Air Pollutants. This process, "Screening Methodologies to Support Risk and Technology Reviews (RTR): A Case Study Analysis (May 2017)" was reviewed by the SAB 2017 and the SAB discussions and the report are available on the SAB website:

<https://yosemite.epa.gov/sab/sabproduct.nsf/0/2708C2DBC839301685258060005C87E8?OpenDocument>

Rationale: This NESHAP established emission limitations and work practice requirements based on maximum achievable control technology (MACT) for controlling emissions of hazardous air pollutants (HAP) from continuous process vents, batch process vents, storage tanks, equipment leaks, wastewater streams, transfer racks and heat exchange systems. The HAPs emitted from these sources include, but are not limited to, toluene, methanol, xylene, hydrogen chloride and methylene chloride. For the technology review, EPA intends to use the process outlined in the May 31, 2018, [presentation](#) to the full SAB. EPA does not anticipate the need to develop new scientific or technical information as part of this review.

The Work Group finds that the RTR risk assessment screening methodology is broadly applicable to many source categories, prior aspects of the data and methods identified have been subject to review by the SAB and others. The unique details of each RTR can include recommendations for new monitoring and MACTs. In general, these technologies are based on established scientific knowledge that has undergone extensive peer review. However, there can be exceptions, and the SAB encourages the EPA to continually assess and identify for SAB review any such technology recommendations that are based on new scientific knowledge.

EPA Description of Planned Action

1. **Name of action:** National Emission Standards for Hazardous Air Pollutants: Organic Liquids Distribution (Non-Gasoline) Residual Risk and Technology Review
2. **RIN Number:** 2060-AT86
3. **EPA Office originating action:** Office of Air and Radiation/Office of Air Quality Planning and Standards/Sector Policies and Programs Division
4. **Brief description of action and statement of need for the action:** This action will address the agency's [residual risk and technology review \(RTR\)](#) of the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Organic Liquids Distribution (Non-Gasoline). The Organic Liquids Distribution (Non-Gasoline) NESHAP, 40 CFR part 63, subpart EEEE, was promulgated pursuant to section 112(d) of the Clean Air Act (CAA) on February 3, 2004 (see 69 FR 5063). The NESHAP established emission limitations and work practice requirements based on maximum achievable control technology (MACT) for control emissions of hazardous air pollutants (HAP) from storage tanks, transfer racks and equipment leaks associated equipment. The most prevalent HAP emitted from these sources include, but are not limited to, benzene, ethylbenzene, toluene, vinyl chloride and xylenes.

This action will implement the residual risk review requirements of CAA section 112(f)(2) and the technology review requirements of CAA section 112(d)(6). The statute directs the EPA to promulgate emission standards under CAA 112(f)(2) if such standards are required to provide an ample margin of safety to protect public health or to prevent, taking relevant factors into account, an adverse environmental effect. Any such standards are to be promulgated within 8 years after promulgation of MACT standards under CAA section 112(d). CAA section 112(d)(6) requires the EPA to review and revise the MACT standards as necessary, taking into account developments in practices, processes and control technologies, no less often than every 8 years.

5. **Timetable:** Pursuant to a [court order](#), the EPA is obligated to complete the final action by March 13, 2020. In consideration of this deadline, which also applies to 19 other RTR source categories, we established an internal schedule for this RTR to be proposed and finalized prior to the consent decree deadline.
6. **Scientific products that will inform the action and plans for peer review:**

6(a). Describe the scientific work products that have been or will be developed to inform decisions regarding the planned action.

The risk analysis methodologies associated with the RTR process have undergone scientific peer reviews. There are no other scientific work products that have been or will be developed to inform this planned action.

6(b). For each work product, describe the approach the agency is taking to develop the needed science or analysis (e.g., any inter-agency collaboration, workshops to inform the analysis).

Because RTR assessments are used for regulatory purposes, and because components of our risk analyses have evolved over time, we have, over the course of the program, conducted scientific peer reviews of the methodologies through the Science Advisory Board (SAB). Through peer review of the RTR process as a whole, rather than each individual rulemaking effort, the agency is able to conduct consistent risk characterizations across all categories of industrial sources.

As described above, the EPA also conducts a technology review to account for developments in practices, processes and control technologies.

With regard to the technology review, EPA intends to use the process outlined in the May 31, 2018, presentation to the full SAB. EPA does not anticipate the need to develop new scientific or technical information as part of this review.

6(c). For each work product, identify whether the action relies on science that meets the EPA Peer Review Handbook definition of "an influential scientific or technical work product" that "has a major impact, involves precedential, novel, and/or controversial issues, or the Agency has a legal and/or statutory obligation to conduct a peer review?"

While the overall RTR risk assessment methods meet the definition as "an influential scientific or technical work product," each individual RTR analysis does not fit this definition.

6(d). Peer review:

Each RTR analysis follows a consistent risk characterization approach using methodologies that have undergone numerous peer reviews. Previous peer reviews have covered elements associated with the RTR process, or assessments with similar scopes or contexts. A brief summary of each peer review is provided:

- 1) The Residual Risk Report to Congress, a document describing the agency's overall analytical and policy approach to setting residual risk standards, was issued to Congress in 1999 following an SAB peer review. Many of the design features of the RTR assessment methodology were described in this report, although individual elements have been improved over time. The final SAB advisory is available at: https://www3.epa.gov/ttn/atw/rrisk/risk_rep.pdf.
- 2) A peer review of multi-pathway risk assessment methodologies for RTR was conducted by the EPA's SAB in 2000. The final SAB advisory is available at:

[http://yosemite.epa.gov/sab/sabproduct.nsf/1F1893E27059DB55852571B9004730F7/\\$File/ecadv05.pdf](http://yosemite.epa.gov/sab/sabproduct.nsf/1F1893E27059DB55852571B9004730F7/$File/ecadv05.pdf)

- 3) A consultation on EPA's updated methods for developing emissions inventories and characterizing human exposure was conducted by SAB in December 2006. SAB provided its formal consultation in a letter to the Administrator in June 2007. The final SAB advisory is available at:
[https://yosemite.epa.gov/sab/sabproduct.nsf/33152C83D29530F08525730D006C3ABF/\\$File/sab-07-009.pdf](https://yosemite.epa.gov/sab/sabproduct.nsf/33152C83D29530F08525730D006C3ABF/$File/sab-07-009.pdf).
- 4) A review of the updated and expanded risk assessment approaches and methods used in the RTR program was completed in 2009. This methodology was highlighted to the SAB utilizing two RTR source categories: Petroleum Refining Sources MACT I and Portland Cement Manufacturing. The final SAB advisory is available at:
<https://yosemite.epa.gov/sab/sabproduct.nsf/0/b031ddf79cffded38525734f00649caf!OpenDocument&TableRow=2.3#2>.
- 5) The individual dose-response assessment values used in the RTR assessment have themselves been the subject of peer reviews through the agencies that developed them (including EPA, through its Integrated Risk Information System, or IRIS; the California Environmental Protection Agency, or CalEPA, and the Agency for Toxic Substances and Disease Registry, or ATSDR).
- 6) The EPA is currently seeking the [SAB's input](#) on specific enhancements made to our risk assessment methodologies, particularly with respect to screening methodologies, since the last [SAB review was completed in 2009](#) (see #4 above). In May 2017, the EPA submitted [a report](#) describing the updated risk screening methodologies to the SAB for review. In [June 2017, the SAB expert panel met](#) to discuss the new methodologies. In May 2018 the SAB completed the quality review of the [Draft SAB report, "Review of EPA's Screening Methodologies to Support Risk and Technology Reviews \(RTR\): A Case Study Analysis."](#) The final SAB report was transmitted to the EPA on September 13, 2018.

SAB Work Group Recommendation on the EPA Planned Action

Name of planned action: National Emission Standards for Hazardous Air Pollutants: Organic Liquids Distribution (Non-Gasoline) RTR (RIN 2060-AT86)

Please respond to the following questions based on the short description EPA provided for the planned action.

	Yes	No
Is the action planned or under review by the SAB? If not, has EPA identified other high-level external peer review (i.e., by the NAS, CASAC, or FIFRA SAP)?		X
Is the action primarily administrative (i.e., involve reporting or record keeping)?		X
Has EPA characterized the action as one that has "an influential scientific or technical work product" that "has a major impact, involves precedential, novel, and/or controversial issues, or the Agency has a legal and/or statutory obligation to conduct a peer review?"		X
Is the action an extension of an existing initiative?	X	

Please indicate whether the action merits a high, medium or low level of interest regarding the following historical SAB science- and problem-driven criteria, based on the short description EPA provided for the planned action.

	High	Medium	Low
Involves scientific approaches that are new to the agency			X
Addresses areas of substantial uncertainties			X
Involves major environmental risks		X	
Relates to emerging environmental issues		X	
Exhibits a long-term outlook		X	

Please provide a recommendation regarding whether the SAB should consider this action for review and comment on the adequacy of the supporting science and provide a brief rationale.

Recommendation: This planned action does not merit further review by the SAB.

Background: The EPA uses a standard process to conduct risk and technology reviews for National Emissions Standards for Hazardous Air Pollutants. This process, "Screening Methodologies to Support Risk and Technology Reviews (RTR): A Case Study Analysis (May 2017)" was reviewed by the SAB 2017 and the SAB discussions and the report are available on the SAB website:

<https://yosemite.epa.gov/sab/sabproduct.nsf/0/2708C2DBC839301685258060005C87E8?OpenDocument>

Rationale: This NESHAP established emission limitations and work practice requirements based on maximum achievable control technology (MACT) for controlling emissions of hazardous air pollutants (HAP) from storage tanks, transfer racks and equipment leaks associated equipment. The most prevalent HAP emitted from these sources include, but are not limited to, benzene, ethylbenzene, toluene, vinyl chloride and xylenes. For the technology review, EPA intends to use the process outlined in the May 31, 2018, [presentation](#) to the chartered SAB. EPA does not anticipate the need to develop new scientific or technical information as part of this risk and technology review.

The Work Group finds that the RTR risk assessment screening methodology is broadly applicable to many source categories, prior aspects of the data and methods identified have been subject to review by the SAB and others. The unique details of each RTR can include recommendations for new monitoring and MACTs. In general, these technologies are based on established scientific knowledge that has undergone extensive peer review. However, there can be exceptions, and the SAB encourages the EPA to continually assess and identify for SAB review any such technology recommendations that are based on new scientific knowledge.

EPA Description of Planned Action

- 1. Name of action:** Prevention of Significant Deterioration (PSD) and Nonattainment New Source Review (NSR): Project Emissions Accounting Proposed Rulemaking
- 2. RIN Number:** 2060-AT89
- 3. EPA Office originating action:** Office of Air and Radiation (OAR)/Office of Air Quality Planning and Standards/Air Quality Policy Division
- 4. Brief description of action and statement of need for the action:**

The NSR provisions of the Clean Air Act (CAA or Act) are a combination of air quality planning and air pollution control technology provisions that require stationary sources of air pollution to obtain a preconstruction permit prior to beginning the construction of a new major stationary source or a major modification of an existing major stationary source. Part C of title I of the CAA contains the requirements for the preconstruction review and permitting of new and modified major stationary sources of air pollution locating in areas meeting the National Ambient Air Quality Standards (NAAQS) (“attainment” areas) and areas for which there is insufficient information to classify an area as either attainment or nonattainment (“unclassifiable” areas). This program is known as the Prevention of Significant Deterioration (PSD) program. Part D of title I of the Act contains the requirements for the preconstruction review and permitting of new and modified major stationary sources of air pollution locating in areas not meeting the NAAQS (“nonattainment” areas). This program is known as the Nonattainment New Source Review (NNSR) program.

Under the current NSR regulations, a source owner determines if its source is undergoing a major modification using a two-step applicability test. The first step is to determine if there is a “significant emission increase” of a regulated NSR pollutant from the proposed modification (Step 1). If there is, the second step is to determine if there is a “significant net emission increase” (Step 2) of that pollutant. In March 2018, the Administrator issued guidance that clarified that our current regulations allow for consideration of emissions decreases in step 1 of the NSR applicability analysis (i.e. project emissions accounting or project netting). This rulemaking would codify the interpretations in the March 2018 guidance

Timetable:

To OMB: Fall, 2018
Publication of NPRM: Winter, 2018

- 5. Scientific products that will inform the action and plans for peer review:**

6(a). Describe the scientific work products that have been or will be developed to inform decisions regarding the planned action.

No scientific work products have been or will be developed to inform the decisions in this planned action because none are necessary to support this rulemaking.

6(b). For each work product, describe the approach the agency is taking to develop the needed science or analysis (e.g., any inter-agency collaboration, workshops to inform the analysis).

As stated previously, this EPA proposed rulemaking will only clarify the NSR regulations that EPA currently interprets to allow for emissions decreases and increases to be considered under Step 1 of the NSR applicability test for major modifications. No science or analysis, inter-agency collaboration, workshops or similar collaborations are necessary for the development of this action.

6(c). For each work product, identify whether the action relies on science that meets the EPA Peer Review Handbook definition of "an influential scientific or technical work product" that "has a major impact, involves precedential, novel, and/or controversial issues, or the Agency has a legal and/or statutory obligation to conduct a peer review?"

This action does not rely on work products involving science that meets the definition of "an influential scientific or technical work product" that "has a major impact, involves precedential, novel, and/or controversial issues, or the Agency has a legal and/or statutory obligation to conduct a peer review."

6(d). Peer review:

The EPA is not developing science products for this action. Therefore, no peer review is necessary.

Recommendation from the SAB Work Group

Name of planned action: Prevention of Significant Deterioration (PSD) and Nonattainment New Source Review (NSR): Project Emission Accounting (RIN 2060-AT89)

Please respond to the following questions based on the short description EPA provided for the planned action.

	Yes	No
Is the action planned or under review by the SAB? If not, has EPA identified other high-level external peer review (i.e., by the NAS, CASAC, or FIFRA SAP)?		X
Is the action primarily administrative (i.e., involve reporting or record keeping)?	X	
Has EPA characterized the action as one that has "an influential scientific or technical work product" that "has a major impact, involves precedential, novel, and/or controversial issues, or the Agency has a legal and/or statutory obligation to conduct a peer review?"		X
Is the action an extension of an existing initiative?	X	

Please indicate whether the action merits a high, medium or low level of interest regarding the following historical SAB science- and problem-driven criteria, based on the short description EPA provided for the planned action.

	High	Medium	Low
Involves scientific approaches that are new to the agency			X
Addresses areas of substantial uncertainties			X
Involves major environmental risks			X
Relates to emerging environmental issues			X
Exhibits a long-term outlook		X	

Please provide a recommendation regarding whether the SAB should consider this action for review and comment on the adequacy of the supporting science and provide a brief rationale.

Recommendation: This planned action does not merit further review by the SAB.

Rationale: The SAB Work Group recognizes that this regulation is intended to codify the interpretations in the [March 13, 2018 Memorandum from the Administrator](#) and does not merit further scientific review by the SAB.

The Work Group notes that the scientific and technical review of NAAQS are reviewed by the Clean Air Scientific Advisory Council and this planned action is primarily administrative and an extension of existing initiatives. The SAB has considered previous planned actions regarding the

NNSR and PSD² and found that the action did not identify new science issues and does not merit further review.

² See the Fall 2012 Regulatory Review and [Work Group memorandum page c-18](#)

EPA Description of Planned Action

- 1. Name of action:** Oil and Natural Gas Sector: Emission Standards for New, Reconstructed, and Modified Sources Review
- 2. RIN Number:** 2060-AT90
- 3. EPA Office originating action:** Office of Air and Radiation/Office of Air Quality Planning and Standards/Sector Policies and Programs Division
- 4. Brief description of action and statement of need for the action:**

On June 3, 2016, the Environmental Protection Agency (EPA) published a final rule titled “Oil and Natural Gas Sector: Emission Standards for New, Reconstructed, and Modified Sources” (40 CFR Part 60 Subpart OOOOa). Following promulgation of the final rule, the Administrator received petitions for reconsideration of several provisions of the rule. The EPA is addressing those specific technical reconsideration issues in a separate proposal (RIN 2060-AT54). A number of states and industry associations sought judicial review of the rule, and the litigation is currently being held in abeyance. On March 28, 2017, newly elected President Donald Trump issued Executive Order 13783 titled “Promoting Energy Independence and Economic Growth,” which directs agencies to review existing regulations that potentially burden the development of domestic energy resources, and appropriately suspend, revise or rescind regulations that unduly burden the development of U.S. energy resources beyond what is necessary to protect the public interest or otherwise comply with the law. In 2017, the EPA provided notice to initiate the policy review of the 2016 OOOOa rule and stated that, if appropriate, will initiate proceedings to suspend, revise or rescind the rule. Subsequently, in a notice dated June 5, 2017, the EPA further committed to look broadly at the entire 2016 OOOOa rule. The purpose of this action (RIN 2060-AT90) is to consider whether the 2016 rule OOOOa appropriately considered policy issues related to the challenges of regulating multiple pollutants across multiple segments of a complex industry.

Information concerning the Oil and Natural Gas Sector is available at:

<https://www.epa.gov/controlling-air-pollution-oil-and-natural-gas-industry>.

Information concerning the Oil and Natural Gas 2016 Rule is available at:

<https://www.epa.gov/stationary-sources-air-pollution/crude-oil-and-natural-gas-facilities-which-construction>.

- 5. Timetable:** The 2018 Spring Regulatory Agenda publicly announced a proposed and final version of this regulation in 2018 and 2019, respectively. There are no judicial or more delineated time frames at this stage of the rulemaking.

Current Schedule:
NPRM - 12/2018
Final Rule - 05/2019

6. Scientific products that will inform the action and plans for peer review:

6(a). Describe the scientific work products that have been or will be developed to inform decisions regarding the planned action.

This policy review of the 2016 OOOOa rule will be informed by the Reconsideration proposal (RIN 2060-AT54) for purposes of analyzing costs, benefits, and record keeping burden. The policy issue discussion in the Review will be informed by the following work products:

- Priorities for New Source Performance Standards Under the Clean Air Act Amendments of 1977. April 1978. EPA-450/3-78-019.
- U.S. Environmental Protection Agency. *Revised Prioritized List of Source Categories for NSPS Promulgation*. March 1979. EPA-450/3-79-023.
- Memorandum to Bruce Moore, U.S. EPA from Heather Brown, EC/R. "Composition of Natural Gas for use in the Oil and Natural Gas Sector Rulemaking". July 2011. Docket ID No. EPA-HQ-OAR-2010-0505-0084.
- "Standards of Performance for Crude Oil and Natural Gas Production, Transmission and Distribution," 77 FR 49490 (Aug. 16, 2012).

6(b). For each work product, describe the approach the agency is taking to develop the needed science or analysis (e.g., any inter-agency collaboration, workshops to inform the analysis).

- The Reconsideration proposal (RIN 2060-AT54) will help inform this Review proposal's costs, benefits, and record keeping burden analysis.
 - Approach: This separate proposal is seeking public comment on specific issues.
 - Collaboration:
 - Formal Agency Review
 - currently undergoing OMB/interagency review
- No additional analysis was determined to be needed for the Review beyond cost, benefits, and record keeping burden. The additional work products listed in 6(a) inform discussion on policy issues such as whether the 2016 OOOOa rule appropriately considered issues related to the challenges of regulating multiple pollutants across multiple segments of a complex industry, not on technical issues such as available emission control technologies or their potential levels of effectiveness.

6(c). For each work product, identify whether the action relies on science that meets the EPA Peer Review Handbook definition of "an influential scientific or technical work product" that "has a major impact, involves precedential, novel, and/or controversial issues, or the Agency has a legal and/or statutory obligation to conduct a peer review?"

We do not envision this action relying on science that meets the EPA Peer Review Handbook definition of "an influential scientific or technical work product."

6(d). Peer review:

See related response in 6(a) above.

Recommendation from the SAB Work Group

Name of planned action: 2060-AT 90: Oil and Natural Gas Sector: Emission Standards for New, Reconstructed, and Modified Sources Review (RIN 2060-AT-90)

Please respond to the following questions based on the short description EPA provided for the planned action.

	Yes	No
Is the action planned or under review by the SAB? If not, has EPA identified other high-level external peer review (i.e., by the NAS, CASAC, or FIFRA SAP)?		X
Is the action primarily administrative (i.e., involve reporting or record keeping)?		X
Has EPA characterized the action as one that has "an influential scientific or technical work product" that "has a major impact, involves precedential, novel, and/or controversial issues, or the Agency has a legal and/or statutory obligation to conduct a peer review?"		X
Is the action an extension of an existing initiative?		X

Please indicate whether the action merits a high, medium or low level of interest regarding the following historical SAB science- and problem-driven criteria, based on the short description EPA provided for the planned action.

	High	Medium	Low
Involves scientific approaches that are new to the agency		X	
Addresses areas of substantial uncertainties		X	
Involves major environmental risks		X	
Relates to emerging environmental issues			X
Exhibits a long-term outlook			X

Please provide a recommendation regarding whether the SAB should consider this action for review and comment on the adequacy of the supporting science and provide a brief rationale.

Recommendation: Defer review of the planned action until sufficient information is available.

Rationale: This action will focus on the challenges of regulating multiple pollutants across multiple segments of a complex industry. One challenge pointed out by the EPA is that there are often multiple entities involved in the process of extraction and delivery of oil and natural gas. The agency needs to determine how best to integrate these entities in the law. Assuming this is done in such a way that all potential emission points are considered, this component of the action does seem likely to be a policy decision.

The second component of the proposed action is to evaluate the methods by which multiple pollutants are considered. The agency notes that many control actions reduce emissions of multiple pollutants. It appears that one of the goals is to somehow streamline the process such that fewer compounds are evaluated. While the Work Group agrees that there is a policy component to this, there is also an important science component. The methods for selecting proxy compounds to evaluate, or otherwise reducing the number of compounds tracked, must be done in consideration of the relative health impacts of the various compounds, as well as potentially accounting for exposures to mixtures of compounds with similar actions.

The Agency also notes there will be analysis involving costs and benefits. The determination of costs and benefits often involves the science linking emissions to health impacts. It is not clear if the same science will be used as in the original regulation, or if changes will be proposed. If changes are proposed, this would involve scientific evaluations.

We acknowledge that we do not have complete information in regard to the agency's plans, and therefore request that the Board continue to track this action to determine if it needs to be reviewed when more information becomes available. We note that the EPA schedule for the planned action listed the Notice of Proposed Rule Making for December 2018.

EPA Description for Recurring Action That May Not Merit SAB Consideration

Name of action: Proposed Renewable Fuel Volume Standards for 2019 and Biomass Based Diesel Volume (BBD) for 2020

RIN Number: 2060-AT93

EPA Office originating action: OAR

Brief description of action: Section 211(o) of the Clean Air Act establishes the Renewable Fuels Standard (RFS) program, which requires that an increasing amount of transportation fuel be made from renewable feedstocks over time. The statute includes volume targets for four different categories of biofuels, for which EPA is directed to establish annual percentage standards: cellulosic biofuel, biomass-based diesel, advanced biofuel, and total renewable fuel. The statute includes tables indicating volume objectives through 2022 for cellulosic biofuel, advanced biofuel, and total renewable fuel, and through 2012 for biomass-based diesel. The Act also includes waiver authorities allowing EPA to reduce statutory volumes in appropriate circumstances. After 2012 for biomass-based diesel and after 2022 for the other fuel categories the statute provides EPA the authority to determine the volumes (the statute sets a minimum of 1 billion gallons for biomass-based diesel), and specifies factors for EPA to consider in determining the required volumes.

EPA finalized Renewable Fuel Standards regulations implementing Section 211(o) of the Clean Air Act in 2007, and also adopted substantial revisions in 2010 to implement statutory amendments enacted as part of the 2007 Energy Independence and Security Act. However, the statute requires EPA to promulgate annual rules to translate the renewable fuel volumes into percentage standards that reflect the projected gasoline and diesel fuel demand in the following year. In establishing these annual standards EPA may implement either the statutory volumes, or alternative volumes that EPA establishes using its authorities to lower statutory volumes or to set volumes for years not addressed in the statute. EPA has promulgated these annual standards every year beginning with 2007. For 2014, for the first time, EPA proposed to exercise our waiver authorities to set the applicable volumes of advanced biofuel and total renewable fuels below statutory levels, in light of the unavailability of certain types of renewable fuels and practical and legal constraints on supplying renewable fuels to consumers. The SAB reviewed this action as part of the Review of the Spring 2013 Regulatory Agenda and concluded that the action did not merit further consideration.³ EPA subsequently re-proposed the 2014 annual standards along with standards for 2015 and 2016 and the biomass-based diesel applicable volume for 2017. On November 30, 2015, EPA finalized the annual standards for 2014-16 and the biomass-based diesel applicable volume for 2017; our action on 2016 standards gets us back on the statutory schedule for completing these actions. On November 23, 2016 EPA finalized the annual standards for 2017 and the applicable volume of biomass-based diesel for 2018.

³ SAB [Discussions about EPA Planned Actions in the Spring 2013 Unified Agenda and their Supporting Science](#) and recommendations are available on the SAB website

The rule establishing the 2019 annual RFS standards and 2020 biomass-based diesel applicable volume is the next of these statutorily-required annual RFS rulemakings.

Justification for considering this action a recurring action.

As stated above, this is a statutorily mandated annual rulemaking. EPA is required to issue a rulemaking every year establishing applicable standards for obligated parties under the RFS program. This is a routine action that will rely on the same approach and sources of data that were used in the rules establishing required standards for recent years. The analytical work underlying the annual RFS annual rules (including for 2019) is based on historical data regarding renewable fuel production, imports, distribution, and use. That information is then used to project renewable fuel volumes for use in the proposed/final rulemakings. We then divide those volumes by gasoline and diesel projections taken from the Energy Information Agency (EIA) to calculate the percentage standards that apply directly to obligated parties like refiners.

For 2019, we will be updating all relevant data as we formulate the proposed and final rules. We do not currently expect to incorporate new methodological approaches that would rely on any new scientific data or touch upon novel issues.

The SAB's decision on the earlier action (check the appropriate line)

The SAB did not select the earlier action for in-depth review

The SAB selected the earlier action for in-depth review.

Previously Reviewed Recurring Action

Name of action: Renewable Fuel Standard (RFS) Volume Standards for 2014

RIN Number: 2060-AR63

EPA Office originating action: OAR

Brief description of action and statement of need for the action: Section 211(o) of the Clean Air Act establishes the Renewable Fuels Standard (RFS) program, which requires that an increasing amount of transportation fuel be made from renewable feedstocks over time, reaching 36 billion gallons by 2022. These 36 billion gallons are made up of four different categories of biofuels, each with its own standard: cellulosic biofuel, biomass-based diesel, advanced biofuel, and total renewable fuel. The statute includes tables indicating volume objectives through 2022 for cellulosic biofuel, advanced biofuel, and total renewable fuel, and through 2012 for biomass-based diesel. After 2012 for biomass-based diesel and after 2022 for the other standards the statute provides EPA the authority to determine the volumes (the statute sets a minimum of 1 billion gallons for biomass-based diesel), and specifies factors for EPA to consider in determining the required volumes. The Act also includes waiver authorities allowing EPA to reduce statutory volumes in appropriate circumstances.

EPA finalized Renewable Fuel Standards regulations implementing Section 211(o) of the Clean Air Act in 2007, and also adopted substantial revisions in 2010 to implement statutory amendments enacted as part of the 2007 Energy Independence and Security Act. However, the statute requires EPA to promulgate annual rules to translate the renewable fuel volumes into

percentage standards that reflect the projected gasoline and diesel fuel demand in the following year. In establishing these annual standards EPA may implement either the statutory volumes, or alternative volumes that EPA establishes using its discretionary authorities to lower statutory volumes or to set volumes for years not addressed in the statute. EPA has promulgated these annual standards every year beginning with 2007. In 2014, for the first time, EPA proposed to exercise our waiver authorities to set the applicable volumes of advanced and total renewable fuels below statutory levels, in light of unavailability of certain types of renewable fuels and practical and legal constraints on supplying renewable fuels to consumers. The SAB reviewed this action in the as part of the Review of the Spring 2013 Regulatory Agenda and concluded that the action did not merit further consideration.⁴

The 2015 RFS volume rule is the next of these statutorily-required annual RFS rulemakings.

Timetable:

To OMB: late fall or early winter 2014

NPRM - Signature: TBD

Does the action rely on science that meets the EPA *Peer Review Handbook* definition of "an influential scientific or technical work product" that "has a major impact, involves precedential, novel, and/or controversial issues, or the Agency has a legal and/or statutory obligation to conduct a peer review?"

No. The analytical work underlying the annual RFS volume rules is based on historical data regarding renewable fuel production, imports, distribution, and use, along with information on micro- and macro-economic factors affecting the underlying data. That information is then used to project renewable fuel volumes for use in the proposed/final rulemakings. This rulemaking will follow the same basic approach as prior annual rulemakings.

Scientific questions to be addressed and approach:

None – as noted above, the data and methodologies supporting this action are consistent with approaches established by previous volume standards, including the 2013 volume standard approach reviewed by the SAB.

Plans for scientific analyses and peer review:

As with previous rules, the analytical work underlying this annual RFS volume rule is based on historical data and updates to historical data regarding renewable fuel production, imports, distribution, and use, along with information on micro- and macro-economic factors affecting these underlying data. The updated information is used to conduct analyses and project renewable fuel volumes for use in the proposed/final rulemakings. This technical/analytical work, which is expected to apply approaches already established through prior volume standards, does not raise any new scientific issues. We also rely to some extent on the analyses conducted

⁴ SAB [Discussions about EPA Planned Actions in the Spring 2013 Unified Agenda and their Supporting Science](#) and recommendations are available on the SAB website

as part of the RFS2 final rulemaking released on March 26, 2010.⁵ In addition to going through the full public notice and comment process, the relevant data and methods that might have raised novel scientific issues in establishing the RFS2 final regulations in 2010 were peer-reviewed. We do not expect to conduct an additional peer review process for analyses underlying the 2015 standards rule since the decisions will be informed by analyses and employ methodologies that are not expected to present any additional novel or controversial scientific issues and/or have been previously utilized.

⁵ Materials on the RFS2 are available on the EPA web page:

- Fact Sheet: [EPA Finalizes New Regulations for the National Renewable Fuel Standard Program for 2010 and Beyond \(PDF\)](#) (7 pp, 162K, EPA-420-F-10-007, February 2010)
- Fact Sheet: [EPA Lifecycle Analysis of Greenhouse Gas Emissions from Renewable Fuels \(PDF\)](#) (4 pp, 109K, EPA-420-F-10-006, February 2010)
- [Q&A on the RFS2](http://www.epa.gov/otaq/fuels/renewablefuels/compliancehelp/rfs2-aq.htm) <http://www.epa.gov/otaq/fuels/renewablefuels/compliancehelp/rfs2-aq.htm>
- The FR Notice <http://www.gpo.gov/fdsys/pkg/FR-2010-03-26/pdf/2010-3851.pdf>

SAB Work Group Recommendation on the Recurring Planned Action

Name of planned action: RIN 2060 – AT93 Renewable Fuel Volume Standards for 2019 and Biomass Based Diesel Volume (BBD) for 2020

Please respond to the following questions based on the short description EPA provided for the planned action.

	Yes	No
Is the action planned or under review by the SAB? If not, has EPA identified other high-level external peer review (i.e., by the NAS, CASAC, or FIFRA SAP)? SAB did not select earlier action (RIN 2060-AR63) for review in 2013.		X
Is the action primarily administrative (i.e., involve reporting or record keeping)?		X
Has EPA characterized the action as one that has "an influential scientific or technical work product" that "has a major impact, involves precedential, novel, and/or controversial issues, or the Agency has a legal and/or statutory obligation to conduct a peer review?"		X
Is the action an extension of an existing initiative?	X	

Please indicate whether the action merits a high, medium or low level of interest regarding the following historical SAB science- and problem-driven criteria, based on the short description EPA provided for the planned action.

	High	Medium	Low
Involves scientific approaches that are new to the agency			X
Addresses areas of substantial uncertainties			X
Involves major environmental risks		X	
Relates to emerging environmental issues		X	
Exhibits a long-term outlook			X

Please provide a recommendation regarding whether the SAB should consider this action for review and comment on the adequacy of the supporting science and provide a brief rationale.

Recommendation: This action does not merit further consideration for review by the SAB.

Rationale: Overall, Renewable Fuel Standards regulation is an activity covered under Section 211(o) of the CAA 2007, with the adoption of revisions in 2010 following amendments enacted as part of the 2007 Energy Independence and Security Act. Since 2007 EPA has promulgated annual rules to translate renewable fuel volumes into percentage standards reflecting the upcoming year’s projection of gas and diesel demand. In 2014 for the first time the agency used

its waiver authority to set applicable volumes below statutory levels as a result of the projected unavailability of some types of fuels, as well as constraints on supply. In advance of the 2014 waiver, the SAB reviewed the action as part of the Spring 2013 Regulatory Agenda and concluded that it did not merit further consideration. The current action is considered a routine and recurring action relying on the same approach and data sources.

EPA Description of Planned Action

- 1. Name of action:** Mercury and Air Toxics Standards for Power Plants Residual Risk and Technology Review and Cost Review
- 2. RIN Number:** 2060-AT99
- 3. EPA Office originating action:** Office of Air and Radiation/Office of Air Quality Planning and Standards/Sector Policies and Programs Division
- 4. Brief description of action and statement of need for the action:**

Cost Review

Clean Air Act (CAA) section 112(n)(1) requires EPA to regulate electric utility steam generating units (EGUs) under CAA section 112 if the Administrator determines such regulation is “appropriate and necessary,” after considering the results of a study of the hazards to public health, if any, resulting from emissions of hazardous air pollutants (HAP) from EGUs that would reasonably be anticipated to occur following implementation of the requirements of the CAA.

- On December 20, 2000, EPA issued a determination that it was appropriate and necessary (A&N Finding) to regulate coal- and oil-fired EGUs under CAA section 112 and added those EGUs to the list of source categories that must be regulated under CAA section 112(d).
- In 2012, EPA reaffirmed the 2000 A&N Finding when it promulgated National Emission Standards for Hazardous Air Pollutants (NESHAP) for Coal- and Oil-fired EGUs under CAA section 112. Those standards are commonly referred to as the Mercury and Air Toxics Standards (MATS).
- In 2015, the Supreme Court ruled in *Michigan v. EPA* that EPA was required to consider the cost of regulation in making the A&N Finding.
- In 2016, EPA finalized a Supplemental Cost Finding concluding that its consideration of cost did not change the A&N Finding. Petitions for review of the 2016 action were filed, and in an April 2017 court filing, EPA asked the Court to hold the case in abeyance while the current administration reviewed the Finding.

EPA is conducting its initial review of the MATS Supplemental Cost Finding (81 FR 24420, April 25, 2016) to determine if the finding will be reconsidered. EPA will issue the results of the review in a notice of proposed rulemaking and will solicit comment on the resulting finding.

Residual Risk and Technology Review

The CAA establishes a two-stage regulatory process for addressing emissions of HAP from stationary sources. In the first stage, the CAA requires EPA to develop technology-based standards for categories of industrial sources. In the second stage of the regulatory process, EPA must review each maximum achievable control technology (MACT)

standard at least every 8 years and revise them as necessary, “taking into account developments in practices, processes and control technologies.” We call this requirement the “technology review.” The EPA is also required to complete a one-time assessment of the health and environmental risks that remain after sources come into compliance with the MACT standards. If additional risk reductions are necessary to protect public health with an ample margin of safety or to prevent adverse environmental effects, EPA must develop standards to address these remaining risks. For each source category for which EPA issued MACT standards, the residual risk stage must be completed within 8 years of promulgation of the initial MACT standard. Since the initial technology review requirement deadline coincides with the risk review requirement deadline, EPA generally combines these two requirements into one rulemaking activity, calling this the “risk and technology review” process, or simply RTR. In this way, results of the risk review can be potentially informative to the technology review process, and vice versa.

For the first stage, the EPA issued national emission standards to control hazardous air pollutants (NESHAP) from coal- and oil-fired EGUs (*i.e.*, the MATS rule) on February 16, 2012 (67 FR 9464).

For this action, as the second stage of the regulatory process, and as we have done for more than 50 source categories to date, we plan to conduct the residual risk review and initial technology review concurrently.

Information concerning MATS is available at: <https://www.epa.gov/mats>.

5. Timetable:

EPA’s tentative schedule was to issue the proposed action in December 2018 and to issue the final action, after consideration of public comments, in 2019.

6. Scientific products that will inform the action and plans for peer review:

6(a). Describe the scientific work products that have been or will be developed to inform decisions regarding the planned action.

No new scientific work products will be developed to inform decisions for the planned action. The RTR process will utilize existing risk analysis methodologies that have undergone scientific peer review and have been used in numerous other RTRs in a variety of industrial sectors.

6(b). For each work product, describe the approach the agency is taking to develop the needed science or analysis (*e.g.*, any inter-agency collaboration, workshops to inform the analysis).

Review of the MATS Supplemental Cost Finding will not involve scientific work products.

The review of the Supplemental Cost Finding will not involve review of any of the key underlying technology or scientific questions related to cost of control of HAP emissions

(e.g., cost and performance of different control options). Rather, the review will focus on policy questions related to how cost should be considered.

For the residual risk portion of the analysis, EPA will be using the same risk analysis methodologies and tools that have been used historically for other RTRs and that have already been reviewed by the Science Advisory Board (SAB). By conducting peer review of the methodologies and tools used for the RTR program as a whole, rather than for each individual RTR rulemaking effort, the agency is able to conduct consistent risk characterizations across all categories of industrial sources.

With regard to the technology review, EPA intends to use the process outlined in the [May 31, 2018, presentation](#) to the full SAB. In promulgating the MATS rule, EPA considered the cost and effectiveness of a wide variety of emission controls that address HAP emissions from coal- and oil-fired power plants. This included state-of-the-art particulate matter control devices (such as baghouses and electrostatic precipitators), mercury-specific control devices (such as activated carbon injection systems), and devices that control acid gases (such as scrubbers and dry sorbent injection), as well as the interaction of control devices (such as the interaction between scrubbers and selective catalytic reduction systems related to mercury control). EPA does not anticipate the need to develop new scientific or technical information as part of this review.

6(c). For each work product, identify whether the action relies on science that meets the EPA Peer Review Handbook definition of "an influential scientific or technical work product" that "has a major impact, involves precedential, novel, and/or controversial issues, or the Agency has a legal and/or statutory obligation to conduct a peer review?"

Review of the MATS Supplemental Cost Finding will not rely on science that meets the EPA Peer Review Handbook definition of "an influential scientific or technical work product" that "has a major impact, involves precedential, novel, and/or controversial issues, or the Agency has a legal and/or statutory obligation to conduct a peer review."

While the risk assessment methods for the overall RTR program do meet the definition as "an influential scientific or technical work product," those methods, as applied to each individual RTR analysis, do not fit this definition.

6(d). Peer review:

Because review of the MATS Supplemental Cost Finding will not rely on science that meets the EPA Peer Review Handbook definition of "an influential scientific or technical work product," peer review will not be required.

Each RTR analysis follows a consistent risk characterization approach using methodologies that have undergone numerous peer reviews. Previous peer reviews have

covered elements associated with the RTR process or assessments with similar scopes or contexts. A brief summary of each peer review is provided:

(1) The Residual Risk Report to Congress, a document describing the agency's overall analytical and policy approach to setting residual risk standards, was issued to Congress in 1999 following an SAB peer review. Many of the design features of the RTR assessment methodology were described in this report, although individual elements have been improved over time.

The final SAB advisory is available at: https://www3.epa.gov/ttn/atw/rrisk/risk_rep.pdf.

(2) A peer review of multi-pathway risk assessment methodologies for RTR was conducted by the EPA's SAB in 2000. The final SAB advisory is available at: [http://yosemite.epa.gov/sab/sabproduct.nsf/1F1893E27059DB55852571B9004730F7/\\$File/ecadv05.pdf](http://yosemite.epa.gov/sab/sabproduct.nsf/1F1893E27059DB55852571B9004730F7/$File/ecadv05.pdf).

(3) A consultation on the EPA's updated methods for developing emissions inventories and characterizing human exposure was conducted by SAB in December 2006. The SAB provided its formal consultation in a letter to the Administrator in June 2007. The final SAB advisory is available at:

[https://yosemite.epa.gov/sab/sabproduct.nsf/33152C83D29530F08525730D006C3ABF/\\$File/sab-07-009.pdf](https://yosemite.epa.gov/sab/sabproduct.nsf/33152C83D29530F08525730D006C3ABF/$File/sab-07-009.pdf).

(4) A review of the updated and expanded risk assessment approaches and methods used in the RTR program was completed in 2009. This methodology was highlighted to the SAB utilizing two RTR source categories: Petroleum Refining Sources MACT I and Portland Cement Manufacturing. The final SAB advisory is available at:

<https://yosemite.epa.gov/sab/sabproduct.nsf/0/b031ddf79cffded38525734f00649caf!OpenDocument&TableRow=2.3#2>.

(5) The individual dose-response assessment values used in the RTR assessment have themselves been the subject of peer reviews through the agencies that developed them (including the EPA through its Integrated Risk Information System, or IRIS; the California Environmental Protection Agency, or CalEPA; and the Agency for Toxic Substances and Disease Registry, or ATSDR).

(6) A review of specific enhancements made to the RTR risk assessment methodologies, particularly with respect to screening methodologies, since the 2009 SAB review (see #4 above) was completed in 2018. The final SAB advisory is available at:

[https://yosemite.epa.gov/sab/sabproduct.nsf/LookupWebProjectsCurrentBOARD/7A84AADF3F2FE04A85258307005F7D70/\\$File/EPA-SAB-18-003+.pdf](https://yosemite.epa.gov/sab/sabproduct.nsf/LookupWebProjectsCurrentBOARD/7A84AADF3F2FE04A85258307005F7D70/$File/EPA-SAB-18-003+.pdf).

SAB Work Group Recommendation on the EPA Planned Action

Name of planned action: Mercury and Air Toxics Standards for Power Plants Residual Risk and Technology Review and Cost Review (RIN 2060-AT99)

Please respond to the following questions based on the short description EPA provided for the planned action.

	Yes	No
Is the action planned or under review by the SAB? If not, has EPA identified other high-level external peer review (i.e., by the NAS, CASAC, or FIFRA SAP)?		X
Is the action primarily administrative (i.e., involve reporting or record keeping)?		X
Has EPA characterized the action as one that has "an influential scientific or technical work product" that "has a major impact, involves precedential, novel, and/or controversial issues, or the Agency has a legal and/or statutory obligation to conduct a peer review?"		X
Is the action an extension of an existing initiative?	X	

Please indicate whether the action merits a high, medium or low level of interest regarding the following historical SAB science- and problem-driven criteria, based on the short description EPA provided for the planned action.

	High	Medium	Low
Involves scientific approaches that are new to the agency		X	
Addresses areas of substantial uncertainties	X		
Involves major environmental risks	X		
Relates to emerging environmental issues	X		
Exhibits a long-term outlook	X		

Please provide a recommendation regarding whether the SAB should consider this action for review and comment on the adequacy of the supporting science and provide a brief rationale.

Recommendation: This action merits review by the SAB.

Rationale: The SAB should consider this action for review, following publication of the proposed rule itself.

This planned action is in response to a Supreme Court decision regarding the Mercury and Air Toxics Standards (MATS). In its ruling, the Court found that EPA did not consider cost in its "appropriate and necessary" finding supporting the MATS. In this planned action, EPA is considering whether cost of MATS compliance is reasonable when weighed against the health

benefits of the rule. There are no new scientific work products associated with this action. The proposal relies on existing information in the MATS rulemaking administrative record. For example, and perhaps most notably, the action relies on the existing Regulatory Impact Analysis.

Although this proposed new rule was not published at the time of review, it has already attracted considerable media attention.

The proposed action has different aspects that relate to science, policy and the law. In particular, it appears that the final disposition of the rule will depend at least in part on a court decision on the so-called co-benefits rule (i.e., that EPA includes in its cost assessment benefits due to reductions in particular matter and nitrogen dioxide as well as mercury). While the policy and legal aspects are not within the purview of SAB, SAB should provide scientific advice on the cost estimates under a variety of scenarios that both include and exclude the co-benefits. It would be of interest to know exactly how EPA determines what is a direct benefit and what is a co-benefit, and how it handles different types of human health outcomes (e.g. how to calculate the relative costs of missed work days, hospitalizations, and deaths).

A major part of the proposed action is a Residual Risk and Technology Review (RTR). It is stated that “no new scientific work products will be developed...”, essentially because the methodology has been previously developed and undergone peer review. However, there is a distinction between the methodology used to conduct a review and the results of that review. SAB should review whether the methodology has been correctly applied in this case.

Regarding the MATS Supplemental Cost Finding, it is stated that this “will not involve scientific work products” and in further responses by the SAB Staff Office, “EPA’s review ... is not based on new scientific data”. These statements only reinforce the need for SAB to provide advice.

It is unclear whether “peer review” (under 6(d)) refers to the work of the SAB, but we believe such peer review should be undertaken by SAB unless there are plans for this to be accomplished by another body. EPA can credibly claim to have assessed the risks and costs of the new rule only if there is a rigorous and robust peer review provided.

[Note to members: The EPA previously considered Considering Cost in the Appropriate and Necessary Finding for the Mercury and Air Toxics Standards (MATS) ([RIN 2060-AS76](#))⁶. The agency re-evaluated the MATS in response to a US Supreme Court decision. The agency sought public comment but did not develop any new scientific data for the action. The Work Group noted the action was supported by a SAB peer review of the [Mercury Risk Assessment](#) and the NESHAP was included in the SAB review of the Fall 2015 Regulatory Agenda. Based on the review of the Mercury Risk Assessment and the RTR Risk assessment methodologies as technical support for the, SAB agreed with the [Work Group](#) and found the action did not merit further SAB consideration. See page B22-24.]

⁶ Preparations for Chartered Science Advisory Board (SAB) Discussions of EPA Planned Agency Actions and their Supporting Science in the Fall 2015 Regulatory Agenda. See page B-22.
[https://yosemite.epa.gov/sab/sabproduct.nsf/B55A4C6443C3838F85257F70006BA725/\\$File/SABWkGrpRecsFall2015RegAgenda.pdf](https://yosemite.epa.gov/sab/sabproduct.nsf/B55A4C6443C3838F85257F70006BA725/$File/SABWkGrpRecsFall2015RegAgenda.pdf)

EPA Description of Planned Action

- 1. Name of action:** The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021–2026 Passenger Cars and Light Trucks

- 2. RIN Number:** 2060-AU09

- 3. EPA Office originating action:** Office of Air and Radiation/Office of Transportation and Air Quality

- 4. Brief description of action and statement of need for the action:**

The National Highway Traffic Safety Administration (NHTSA) and the Environmental Protection Agency (EPA) propose to amend certain existing Corporate Average Fuel Economy (CAFE) and tailpipe carbon dioxide emissions standards for passenger cars and light trucks and establish new standards, all covering model years 2021 through 2026. More specifically, EPA is proposing to amend its carbon dioxide emissions standards for model years 2021 through 2026 because they are no longer appropriate and reasonable, and NHTSA is proposing new CAFE standards for model years 2022 through 2026 and amending its 2021 model year CAFE standards because they are no longer maximum feasible standards.

The agencies must act to propose and finalize these standards and do not have discretion to decline to regulate. Congress requires NHTSA to set CAFE standards for each model year. Congress also requires EPA to set emissions standards for light-duty vehicles if EPA has made an “endangerment finding” that the pollutant in question – in this case, CO₂ – “cause[s] or contribute[s] to air pollution which may reasonably be anticipated to endanger public health or welfare.” NHTSA and EPA are proposing these standards concurrently because tailpipe CO₂ emissions standards are directly and inherently related to fuel economy standards, and if finalized, these rules would apply concurrently to the same fleet of vehicles.

The agencies’ proposed preferred alternative is to retain the model year 2020 standards (specifically, the footprint target curves for passenger cars and light trucks) for both programs through model year 2026, but comment is sought on a range of alternatives. EPA also is proposing to withdraw the January 9, 2013 waiver of CAA preemption for California’s Advanced Clean Car (ACC) program, Zero Emissions Vehicle (ZEV) mandate, and Greenhouse Gas (GHG) standards that are applicable to model years 2021 through 2025.

In this proposal, EPA is relying on the technical analysis performed by NHTSA which is the basis of the joint proposed standards for both CAFE and light-duty GHG standards.

5. Timetable:

NPRM date issued: The NPRM was issued on August 2, 2018, and published in the Federal Register on August 24, 2018 [83 FR 42896]

Comment period: The comment period closed on October 23, 2018. The agencies held three public hearings on September 24, 25, and 26, in Fresno, CA, Dearborn, MI, and Pittsburgh, PA, respectively.

Final rulemaking: The agencies' goal is to issue a proposal this coming winter.

6. Scientific products that will inform the action and plans for peer review:

6(a). Describe the scientific work products that have been or will be developed to inform decisions regarding the planned action.

The proposal's analysis uses the NHTSA CAFE model to estimate manufacturers' potential responses to new CAFE and CO₂ standards and to estimate various impacts of those responses. For the NPRM, the agencies are relying for the first time on two additional models newly developed by DOT/NHTSA, including a vehicle scrappage model and dynamic fleet share model. DOT is responsible for the peer review of these products.

Some other key modeling approaches and inputs to the modeling include estimates of technology cost and effectiveness, vehicle simulation results using the Argonne National Laboratory (ANL) Autonomie model (discussed further below), electric vehicle battery costs information derived from the ANL BatPac model, vehicle registration data from Polk used to assess vehicle miles traveled, and an assessment of safety attribute to vehicle mass reduction, fleet turnover, and other factors.

6(b). For each work product, describe the approach the agency is taking to develop the needed science or analysis (e.g., any inter-agency collaboration, workshops to inform the analysis).

DOT's Volpe National Transportation Systems Center (Volpe Center) develops, maintains, and applies the model for NHTSA. NHTSA has used the CAFE model to perform analyses supporting every CAFE rulemaking since 2001, and the 2016 rulemaking regarding heavy-duty pickup and van fuel consumption and GHG emissions also used the CAFE model for analysis.

This analysis also uses four DOE and DOE-sponsored models to develop inputs to the CAFE model, including three developed and maintained by DOE's Argonne National Laboratory. The analysis uses the DOE Energy Information Administration's (EIA's) National Energy Modeling System (NEMS) to estimate fuel prices, and used Argonne's Greenhouse gases, Regulated Emissions, and Energy use in Transportation (GREET) model to estimate emissions rates from fuel production and distribution processes. DOT also sponsored DOE/Argonne to use their Autonomie full vehicle simulation system to

estimate the fuel economy impacts for roughly a million combinations of technologies and vehicle types.

Comments were requested on, among other things, whether EPA should use alternative methodologies and modeling, including DOE/Argonne's Autonomie full vehicle simulation tool and DOT's CAFE model. Having reviewed comments on the subject and having considered the matter fully, the agencies have determined it is reasonable and appropriate to use DOE/Argonne's model for full vehicle simulation, to use DOT's CAFE model for analysis of regulatory alternatives.

Using the CAFE model allows consideration of the following factors: the CAFE model explicitly evaluates the cost of compliance for each manufacturer, each fleet, and each model year; it accounts for lead time necessary for compliance by directly incorporating estimated manufacturer production cycles for every vehicle in the fleet, ensuring that the analysis does not assume vehicles can be redesigned to incorporate more technology without regard to lead time considerations; it provides information on safety effects associated with different levels of standards and information about many other impacts on consumers, and it calculates energy impacts (i.e., fuel saved or consumed) as a primary function, besides being capable of providing information about many other factors within EPA's broad CAA discretion to consider.

6(c). For each work product, identify whether the action relies on science that meets the EPA Peer Review Handbook definition of "an influential scientific or technical work product" that "has a major impact, involves precedential, novel, and/or controversial issues, or the Agency has a legal and/or statutory obligation to conduct a peer review?"

DOT and NHTSA are also subject to guidance on the conduct of peer reviews on influential scientific and technical work products as issued by the Office of Management and Budget (OMB) through its Final Information Quality Bulletin on Peer Review (70 FR 2664). Further information can be found at:

<https://www.transportation.gov/peerreview>

6(d). Peer review:

Information on NHTSA's peer review of the CAFE model can be found at

<https://www.nhtsa.gov/corporate-average-fuel-economy/compliance-and-effects-modeling-system>

<https://www.nhtsa.gov/sites/nhtsa.dot.gov/files/documents/812590-cafe-peer-review.pdf>

SAB Work Group Recommendation on EPA Planned Action

Name of planned action: The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021-2026 Passenger and Light Trucks. RIN Number 2060-AU09.

Please respond to the following questions based on the short description EPA provided for the planned action.

	Yes	No
Is the action planned or under review by the SAB? If not, has EPA identified other high-level external peer review (i.e., by the NAS, CASAC, or FIFRA SAP)?		X
Is the action primarily administrative (i.e., involve reporting or record keeping)?		X
Has EPA characterized the action as one that has "an influential scientific or technical work product" that "has a major impact, involves precedential, novel, and/or controversial issues, or the Agency has a legal and/or statutory obligation to conduct a peer review?"	X	
Is the action an extension of an existing initiative?	X	

Please indicate whether the action merits a high, medium or low level of interest regarding the following historical SAB science- and problem-driven criteria, based on the short description EPA provided for the planned action.

	High	Medium	Low
Involves scientific approaches that are new to the agency	X		
Addresses areas of substantial uncertainties	X		
Involves major environmental risks	X		
Relates to emerging environmental issues	X		
Exhibits a long-term outlook	X		

Please provide a recommendation regarding whether the SAB should consider this action for review and comment on the adequacy of the supporting science and provide a brief rationale.

Recommendation: This action does not warrant further review provided the EPA and CARB agree on a rule harmonized across the US. If, however, the EPA and CARB cannot agree on a harmonized rule, then the SAB is ready to review pertinent scientific data in the different rules.

Rationale: The Work Group conducted a non-public fact-finding meeting with EPA staff. A summary of the discussions and the EPA's responses to the Work Group's questions are provided in Attachment C of this memorandum.

In this proposal, the EPA is relying on the technical analysis performed by NHTSA which is the basis of the joint proposed standards for both CAFÉ and light-duty truck GHG standards. EPA developed extensive data, models and reports leading up to the Mid Term Evaluation, including a comprehensive Technical Assessment Report. Regardless of whether EPA relies on its own staff and analysis, or references another agency, EPA has an obligation to base its own rulemaking on appropriately reviewed scientific and technical work products. EPA should, however, reconcile differences in assumptions and methods in the proposal between the EPA and the other agencies..

EPA reports that NHTSA's analysis is predicated on the following models:

1. NHTSA CAFE model to estimate manufacturers' potential responses to new CAFÉ and CO2 standards. This model is developed, maintained and applied by the DOT Volpe National Transportation Systems Center (Volpe Center). The CAFÉ model appears to have been subject to a review, but rationalization of the assumptions between the EPA models and the Volpe model has not been completed.
2. Vehicle scrappage model. More information is needed regarding the review of this model with respect to this rule making.
3. Dynamic fleet share model. More information is needed regarding the review of this model with respect to this rule making.
4. Four DOE and DOE-sponsored models, including three developed by Argonne National Laboratory (including GREET Autonomie and unspecified) and one from the Energy Information Agency (National Energy Modeling System) are being used. More information is needed regarding the review of these models with respect to their application for this rule making.
5. EPA does not describe any peer review of the input data and assumptions or results of their analysis. More information is needed in this regard.

California has an EPA waiver issued under the Clean Air Act to develop its own vehicle emissions regulations. One of the key goals of the 2017-2025 standards was to harmonize the federal standard and the California GHG standard into a Joint National Program. However, state zero emission vehicle standards were not harmonized with the EPA and NHTSA standards. California completed its own MTE and found that the California standards were appropriate. Other states on the West Coast and in the Northeast regions of the US have chosen to adopt the California standards. If the EPA grants California a waiver for separate standards, the US will have disparate standards in different parts of the country, thereby creating compliance complications for automakers. Even if EPA and CARB agree on a new harmonized rule, SAB review may be appropriate if the harmonized rule is re-proposed with a new or revised technical rationale.”

Chronology and Description of Planned Action

- 1. Name of action:** Strengthening Transparency in Regulatory Science
- 2. RIN Number:** 2080-AA14
- 3. EPA Office originating action:** Office of Air and Radiation/Office of Air Quality Planning and Standards/Sector Policies and Programs Division
- 4. Brief description of action status:**

The Chartered SAB discussed and identified this action ([Strengthening Transparency in Regulatory Science 2080-AA14](#)) as one the SAB wishes to provided comment and advice at its May 31, 2018 meeting. The SAB sent a letter to Administrator Pruitt informing him of the Board's desire to review the proposed rule. The letter is available [here](#).

Background: EPA's usual process is to provide the SAB with information about the publication of the semi-annual regulatory agenda and to provide descriptions of major planned actions that are not yet proposed but appear in the semi-annual regulatory agenda, augmented to include proposed regulations, criteria documents, standards, or limitations that are expected to undergo interagency review. The EPA's descriptions provide available information regarding the science that is informing these agency actions.

SAB members and the SAB Staff Office were made aware of a proposed rule entitled *Strengthening Transparency in Regulatory Science* (RIN 2080-AA14) through an April 25, 2018, press event and an April 30, 2018, *Federal Register* notice, as well as news articles. The EPA announced the proposed rulemaking with a 30-day public comment period. SAB members had no information regarding the timeline for finalizing the rule and the proposed rule was not identified as a major action in either of the Spring 2017 or Fall 2017 semi-annual Regulatory Agendas.

An SAB Work Group met by teleconference on May 3, 2018, to discuss its recommendations on major planned actions in the Fall 2017 semi-annual regulatory agenda and included the proposed rule *Strengthening Transparency in Regulatory Science* (RIN 2080-AA14) as part of the discussion. That Work Group provided the SAB with a memorandum documenting the discussion and recommending that the proposed rule merits review by the SAB. Subsequently the SAB became aware that the proposed rule was included in the Spring 2018 semi-annual Regulatory Agenda published on May 9, 2018. A second *Federal Register* notice was published May 25, 2018 extending the public comment period to August 16, 2018 and announcing a public hearing to be held in Washington, DC on July 17, 2018. The agenda did not list a timetable for the final action.

EPA Description of Planned Action

- 1. Name of action:** Peak Flows Management – formerly called Updates to Wet Weather Treatment Regulations for POTWs
- 2. RIN Number:** 2040-AF81
- 3. EPA Office originating action:** Office of Water, Office of Wastewater Management
- 4. Brief description of action and statement of need for the action:** Wet weather events (e.g., rain, snowmelt) can impact publicly owned treatment works (POTWs) operations when excess water enters the wastewater collection system. The increased wet weather flows in the collection system can exceed the POTW treatment plant's capacity to provide the same type of treatment for all of the incoming wastewater. The treatment plant's secondary treatment units are the most likely to be adversely affected by wet weather because the biological systems can be damaged when too much water flows through them. POTWs employ a variety of operational practices to ensure the integrity of their secondary treatment units during wet weather, and this update to the regulations will clarify permitting procedures for POTW treatment plants with separate storm sewer systems under wet weather operational conditions. These updates will ensure a consistent national approach for permitting POTWs that provides for efficient treatment plant operation while protecting the public from potential adverse health effects of inadequately treated sewage.
- 5. Timetable:** Public listening sessions and request for comment: Late Summer/Fall 2018; NPRM: July 2019; final rule: July 2020.
- 6. Scientific products that will inform the action and plans for peer review:**

6(a). Describe the scientific work products that have been or will be developed to inform decisions regarding the planned action.

The EPA is early in the process of developing a proposal and has not yet determined the specific scientific products needed or the nature of the peer review intended. The EPA will review information on existing POTW practices to ensure the integrity of their secondary treatment units during wet weather conditions. The EPA will review literature and hold listening sessions with stakeholders and tribes.

6(b). For each work product, describe the approach the agency is taking to develop the needed science or analysis (e.g., any inter-agency collaboration, workshops to inform the analysis).

The EPA is early in the process of developing a proposal and has not yet determined the specific scientific products needed or the nature of the peer review intended.

6(c). For each work product, identify whether the action relies on science that meets the EPA Peer Review Handbook definition of "an influential scientific or technical

work product” that “has a major impact, involves precedential, novel, and/or controversial issues, or the Agency has a legal and/or statutory obligation to conduct a peer review?”

The EPA is early in the process of developing a proposal and has not yet determined the specific scientific products needed or the nature of the peer review intended.

6(d). Peer review:

The EPA is early in the process of developing a proposal and has not yet determined the specific scientific products needed or the nature of the peer review intended.

Recommendation from the SAB Work Group

Name of planned action: Peak Flow Management – formerly called Updates to Wet Weather Treatment Regulations for POTWs (RIN 2040-AF81)

Please respond to the following questions based on the short description EPA provided for the planned action.

	Yes	No
Is the action planned or under review by the SAB? If not, has EPA identified other high-level external peer review (i.e., by the NAS, CASAC, or FIFRA SAP)?	X	
Is the action primarily administrative (i.e., involve reporting or record keeping)?	X	
Has EPA characterized the action as one that has "an influential scientific or technical work product" that "has a major impact, involves precedential, novel, and/or controversial issues, or the Agency has a legal and/or statutory obligation to conduct a peer review?"		X
Is the action an extension of an existing initiative?	X	

Please indicate whether the action merits a high, medium or low level of interest regarding the following historical SAB science- and problem-driven criteria, based on the short description EPA provided for the planned action.

	High	Medium	Low
Involves scientific approaches that are new to the agency			X
Addresses areas of substantial uncertainties			X
Involves major environmental risks			X
Relates to emerging environmental issues			X
Exhibits a long-term outlook		X	

Please provide a recommendation regarding whether the SAB should consider this action for review and comment on the adequacy of the supporting science and provide a brief rationale.

Recommendation: Defer SAB review of the action until sufficient information is available.

Rationale: The Work Group conducted a non-public fact-finding meeting with EPA staff. A summary of the discussions and the EPA’s responses to the Work Group’s questions are provided in Attachment C of this memorandum.

The SAB Work Group recognizes that this regulation concerns the long-standing issue of regulatory management of wet weather flows at Publicly Owned Treatment Works (POTWs). These wet weather events have the potential to physically damage the facilities and/or “wash-out” the biological systems thereby impacting future operations. The development of the regulation is in its early stages as the agency has just completed stakeholder group meetings and gathering additional information. The SAB Work Group finds that this regulation, by necessity, will include process engineering and public health considerations and merits further consideration when additional information is available.

EPA Description of Planned Action

- 1. Name of action:** Clean Water Act Section 404 Assumption Update Regulation
- 2. RIN Number:** 2040-AF83
- 3. EPA Office originating action:** Office of Water, Office of Wetlands, Oceans, and Watersheds
- 4. Brief description of action and statement of need for the action:**

Section 404(g) of the Clean Water Act (CWA) authorizes states [and tribes] to assume the CWA Section 404 permit program for discharges of dredged or fill material into certain waters. [33 U.S.C. 1344\(g\)](#). Prior to assuming this permitting responsibility, a state or tribal program must be approved by the EPA, and be consistent with and no less stringent than requirements of the CWA and its implementing regulations. The statute and the regulations lay out the minimum requirements for assumption, the assumption process, and requirements for administration of a state/tribal CWA 404(g) program including EPA oversight. A state or tribe would be eligible to assume the program, once a state or tribe demonstrates that they meet the statutory and regulatory requirements, at [33 U.S.C. §§ 1344\(h\)](#) and [40 CFR Part 233](#), by submitting a request for EPA approval to assume the program that includes a program description, documents and other information specified in the statute and regulations.

The Clean Water Act Section 404 Assumption Update Regulation is intended to provide general updates to the 1988 CWA section 404(g) assumption regulations and provide clarity on specific issue(s) requested by the states and tribes. Specifically, the rule would clarify and discern the extent of waters assumed by states/tribes under CWA section 404 permit responsibilities, and the extent of waters to be retained by the USACE under an approved state/tribal program. ([2014 letter from state associations](#))

In 2015, EPA convened the [Assumable Waters Subcommittee](#) under the National Advisory Council for Environmental Policy and Technology ([NACEPT](#)), a standing federal advisory committee which addresses environmental policy, technology and management issues. Comprised of state, tribal, federal, environmental, academic and industry representatives, this twenty-two-member subcommittee was charged with providing recommendations as to how EPA could provide clarity with respect to the extent of assumable waters. NACEPT submitted their recommendations to the EPA Administrator on June 1, 2017. ([NACEPT Report and Recommendations](#))

This rule is intended to provide clarity with respect to the extent of assumable waters following EPA's consideration of the FACA recommendations and to provide technical corrections and updates to the 1988 CWA section 404(g) assumption regulations in 40 CFR 233.

- This action fits with other agency actions to increase cooperative federalism and to assist state and tribal efforts to assume the CWA section 404 permitting program. It will

provide requested clarity and necessary updates including consideration of [NACEPT's recommendations](#).

- This action does not affect other agency or agencies actions.

Links to key background documents in the public domain in addition to the links above, here are some additional background documents:

- [ICR for the existing regulations](#) – these will be updated for this rulemaking
- National Advisory Council for Environmental Policy and Technology ([NACEPT](#)) – see their recommendation [here](#) June 1, 2017.

5. Timetable:

- September 2019 – Propose rule
- September 2020 – Final rule

6. Scientific products that will inform the action and plans for peer review:

6(a). Describe the scientific work products that have been or will be developed to inform decisions regarding the planned action.

There are no scientific questions identified as needing to be addressed in advance of or as part of the proposed rule at this time.

6(b). For each work product, describe the approach the agency is taking to develop the needed science or analysis (e.g., any inter-agency collaboration, workshops to inform the analysis).

There are no scientific questions identified as needing to be addressed in advance of or as part of the proposed rule at this time.

6(c). For each work product, identify whether the action relies on science that meets the EPA Peer Review Handbook definition of "an influential scientific or technical work product" that "has a major impact, involves precedential, novel, and/or controversial issues, or the Agency has a legal and/or statutory obligation to conduct a peer review?"

There are no scientific questions identified as needing to be addressed in advance of or as part of the proposed rule at this time.

6(d). Peer review:

There are no plans for peer review or scientific analysis beyond the normal economic impact analyses.

Recommendation from the SAB Work Group

Name of planned action: Clean Water Act Section 404 Assumption Update Regulation
 (RIN 2040-AF83)

Please respond to the following questions based on the short description EPA provided for the planned action.

	Yes	No
Is the action planned or under review by the SAB? If not, has EPA identified other high-level external peer review (i.e., by the NAS, CASAC, or FIFRA SAP)?	X	
Is the action primarily administrative (i.e., involve reporting or record keeping)?	X	
Has EPA characterized the action as one that has "an influential scientific or technical work product" that "has a major impact, involves precedential, novel, and/or controversial issues, or the Agency has a legal and/or statutory obligation to conduct a peer review?"		X
Is the action an extension of an existing initiative?	X	

Please indicate whether the action merits a high, medium or low level of interest regarding the following historical SAB science- and problem-driven criteria, based on the short description EPA provided for the planned action.

	High	Medium	Low
Involves scientific approaches that are new to the agency			X
Addresses areas of substantial uncertainties			X
Involves major environmental risks			X
Relates to emerging environmental issues			X
Exhibits a long-term outlook		X	

Please provide a recommendation regarding whether the SAB should consider this action for review and comment on the adequacy of the supporting science and provide a brief rationale.

Recommendation: The action does not merit further review by the SAB.

Rationale: The SAB Work Group recognizes that this regulation is largely procedural and administrative as the 404/401 program is well established and does not merit review by the SAB.

EPA Description of Planned Action

- 1. Name of action:** Treatment of Biogenic CO₂ Emissions Under the Clean Air Act Permitting Programs
- 2. RIN Number:** 2060-AU03
- 3. EPA Office originating action:** Office of Air and Radiation (OAR)/Office of Air Quality Planning and Standards/Air Quality Policy Division
- 4. Brief description of action and statement of need for the action:**

Biogenic CO₂ emissions are the CO₂ emissions related to the natural carbon cycle, as well as those from the production, harvest, combustion, digestion, fermentation, decomposition, or processing of biologically based materials ('biomass feedstocks') other than fossil fuels, peat, and mineral sources of carbon. Both the 2009 and 2016 Endangerment Findings include CO₂ within the definition of the air pollution that is reasonably anticipated to endanger public health and welfare and therefore, all CO₂ emissions are currently included in EPA's GHG regulations.

In April 2018, the EPA issued a policy statement announcing, among other things, that EPA's policy in forthcoming regulatory actions and in various programmatic contexts will be to treat biogenic CO₂ emissions resulting from the combustion of biomass from managed forests at stationary sources for energy production as carbon neutral. This proposed rulemaking is expected to clarify how biogenic CO₂ emissions from the combustion of biomass from managed forests at stationary sources should be treated for purposes of New Source Review preconstruction permitting (specifically the Prevention of Significant Deterioration (PSD) part of the program) and title V permitting.

The PSD provisions of the Clean Air Act (CAA) are a combination of air quality planning and air pollution control technology provisions that require stationary sources of air pollution to obtain a preconstruction permit prior to beginning the construction of a new major stationary source or a major modification of an existing major stationary source at an area attaining the National Ambient Air Quality Standards (NAAQS). Furthermore, the CAA title V permitting program requirements improve compliance with the CAA by combining all the CAA requirements a stationary source is subject to into a single permit.

For purposes of the PSD permitting program, any facilities that use biomass feedstocks for combustion, digestion, fermentation or decomposition processes that result in CO₂ emissions could potentially be subject to Best Available Control Technology (BACT) requirements under the PSD preconstruction permitting program if the facility is subject to permitting for another regulated pollutant first. For title V purposes, a source will not be newly subject to title V permitting for its biogenic CO₂ emissions, but permitting

requirements with conditions related to biogenic CO₂ emissions could be incorporated into any title V permit if applicable.

5. Timetable:

To OMB: Fall, 2019

Publication of NPRM: Winter, 2020

6. Scientific products that will inform the action and plans for peer review:

The EPA is early in the process of developing a proposal and currently does not have information to respond to this question. The EPA is considering information related to the April 2018 Policy Statement.

6(a). Describe the scientific work products that have been or will be developed to inform decisions regarding the planned action.

To be determined. See previous response.

6(b). For each work product, describe the approach the agency is taking to develop the needed science or analysis (e.g., any inter-agency collaboration, workshops to inform the analysis).

To be determined.

6(c). For each work product, identify whether the action relies on science that meets the EPA Peer Review Handbook definition of "an influential scientific or technical work product" that "has a major impact, involves precedential, novel, and/or controversial issues, or the Agency has a legal and/or statutory obligation to conduct a peer review?"

To be determined.

6(d). Peer review:

To be determined.

Recommendation from the SAB Work Group

Name of planned action: Treatment of Biogenic CO2 Emissions Under the Clean Air Act Permitting Program. 2060-AU03.

Please respond to the following questions based on the short description EPA provided for the planned action.

	Yes	No
Is the action planned or under review by the SAB? If not, has EPA identified other high-level external peer review (i.e., by the NAS, CASAC, or FIFRA SAP)?		X
Is the action primarily administrative (i.e., involve reporting or record keeping)?		X
Has EPA characterized the action as one that has "an influential scientific or technical work product" that "has a major impact, involves precedential, novel, and/or controversial issues, or the Agency has a legal and/or statutory obligation to conduct a peer review?"		X
Is the action an extension of an existing initiative?	X	

Please indicate whether the action merits a high, medium or low level of interest regarding the following historical SAB science- and problem-driven criteria, based on the short description EPA provided for the planned action.

	High	Medium	Low
Involves scientific approaches that are new to the agency			X
Addresses areas of substantial uncertainties			X
Involves major environmental risks			X
Relates to emerging environmental issues			X
Exhibits a long-term outlook		X	

Please provide a recommendation regarding whether the SAB should consider this action for review and comment on the adequacy of the supporting science and provide a brief rationale.

Recommendation: This planned action does not merit further review by the SAB.

Rationale: The proposed action relies on a policy position and does not involve any new science in this action. The [EPA's Treatment of Biogenic Carbon Dioxide \(CO2\) Emissions from Stationary Sources that Use Forest Biomass for Energy Production](#) was issued on April 23, 2018. The Work Group notes that the policy statement acknowledges the scientific complexity of the topic, the SAB's on-going work on [biogenic carbon emissions](#) and states that the "policy is not a scientific determination and does not revise or amend any scientific determinations that EPA has previously made."

The Work Group received written responses from the EPA program office and they are summarized in Attachment C of this memorandum.

EPA Description of Planned Action

- 1. Name of action:** General National Ambient Air Quality Standards Implementation Update Rule
- 2. RIN Number:** 2060-AU10
- 3. EPA Office originating action:** Office of Air and Radiation (OAR)/Office of Air Quality Planning and Standards/Air Quality Policy Division

4. Brief description of action and statement of need for the action:

This is a placeholder for one or more potential proposed rulemakings to address NAAQS implementation-related policies determined by the Administrator as necessary to fully realize the benefits of strategies to streamline and reduce burden, and in response to adverse court decisions. This may include proposals for regulatory or policy changes related to implementation of the ozone and SO₂ NAAQS, and PSD permitting.

Timetable:

To be determined

5. Scientific products that will inform the action and plans for peer review:

6(a). Describe the scientific work products that have been or will be developed to inform decisions regarding the planned action.

Not yet identified.

6(b). For each work product, describe the approach the agency is taking to develop the needed science or analysis (e.g., any inter-agency collaboration, workshops to inform the analysis).

To be determined.

6(c). For each work product, identify whether the action relies on science that meets the EPA Peer Review Handbook definition of "an influential scientific or technical work product" that "has a major impact, involves precedential, novel, and/or controversial issues, or the Agency has a legal and/or statutory obligation to conduct a peer review?"

6(d). Peer review: To be determined.

Recommendation from the SAB Work Group

Name of planned action: General National Ambient Air Quality Standards Implementation Update Rule (RIN 2060-AU10)

Please respond to the following questions based on the short description EPA provided for the planned action.

	Yes	No
Is the action planned or under review by the SAB? If not, has EPA identified other high-level external peer review (i.e., by the NAS, CASAC, or FIFRA SAP)?		X
Is the action primarily administrative (i.e., involve reporting or record keeping)?		X
Has EPA characterized the action as one that has "an influential scientific or technical work product" that "has a major impact, involves precedential, novel, and/or controversial issues, or the Agency has a legal and/or statutory obligation to conduct a peer review?"		X
Is the action an extension of an existing initiative?	X	

Please indicate whether the action merits a high, medium or low level of interest regarding the following historical SAB science- and problem-driven criteria, based on the short description EPA provided for the planned action.

	High	Medium	Low
Involves scientific approaches that are new to the agency			X
Addresses areas of substantial uncertainties			X
Involves major environmental risks			X
Relates to emerging environmental issues			X
Exhibits a long-term outlook		X	

Please provide a recommendation regarding whether the SAB should consider this action for review and comment on the adequacy of the supporting science and provide a brief rationale.

Recommendation: This planned action does not merit further review

Rationale: The EPA describes this action as a placeholder for one or more potential proposed rulemakings to address NAAQS implementation-related policies determined by the Administrator as necessary to fully realize the benefits of strategies to streamline and reduce regulatory burden, and in response to adverse court decisions.”

The EPA has not determined whether the planned action has "an influential scientific or technical work product" that "has a major impact, involves precedential, novel, and/or

controversial issues, or the Agency has a legal and/or statutory obligation to conduct a peer review.

The Work Group notes that planned actions in this agenda and previous agendas addressed implementation of the NAAQS. In this regulatory agenda the Work Group found that a similar action, “Prevention of Significant Deterioration (PSD) and Nonattainment New Source Review (NSR): Project Emissions Accounting Proposed Rulemaking (RIN 2060-AT89), did not merit further review by the SAB. See page B-9 of this document.

Other planned actions that address the implementation of the NAAQS are listed in the following table.

Table 1. Planned Actions in Previous Agendas Addressing NAAQS Implementation				
RIN	Planned Action Title	Workgroup recommendation	SAB Disposition	Review Cycle
2060-AR34	Implementation of the 2008 National Ambient Air Quality Standards for Ozone: State Implementation Plan Requirements	No further SAB consideration is merited.	SAB Agreed	Fall 2012
2060-AR19	Data Requirements for Determining Attainment for the 1-Hour SO ₂ NAAQS.	No further SAB consideration is merited.	SAB Agreed	Fall 2012
2060-AQ47	Prevention of Significant Deterioration (PSD) and Nonattainment New Source Review (NSR): Reconsideration of Inclusion of Fugitive Emissions; Reconsideration	No further SAB consideration is merited.	SAB Agreed	Fall 2012
2060-AR28	PSD for Particulate Matter Less Than 2.5 Micrometers (PM _{2.5})— Increments, Significant Impact Levels (SILs) and Significant Monitoring Concentration: Reconsideration	No further SAB consideration merited.	SAB Agreed	Spring 2013
2060-AS05	Interstate Transport Rule for the 2008 Ozone NAAQS	No further SAB consideration is merited.	SAB Agreed	Spring 2015
2060-AS05	Interstate Transport Rule for the 2008 Ozone NAAQS	No further SAB consideration is merited.	SAB Agreed	Spring 2015
2060-AS82	Implementation of the 2015 National Ambient Air Quality Standards for Ozone: Nonattainment Area Classifications and State Implementation Plan Requirements	No further SAB consideration is merited.	SAB Agreed	Spring 2016

Attachment C

Summary of the Science Advisory Board Work Group Fact-Finding on EPA Planned Actions in the Spring 2018 Regulatory Agenda

October 31, 2018

The Science Advisory Board Work Group on EPA Planned Actions for SAB Consideration of the Underlying Science held a fact-finding teleconference on October 31, 2018. EPA offices were provided questions to clarify and seek additional information on the planned actions in the Spring 2018 Regulatory agenda published on September 17, 2018. This attachment summarizes the Work Group's findings.

The Work Group submitted questions to the EPA Office of Water and the Office of Air and Radiation. The questions and responses are provided below. EPA attendees were:

John Shoaff,
Leif Hockstad
Sandy Evalenko
Caryn Muellerleile
Christine Ruf
Katherine Stebe
Tomeka Nelson
Lisa Biddle
Christopher Kloss
Kathy Hurlid
Mindy Eisenberg
Michael Mcdavit
Jamie Piziali

Mike Koerber
Kevin Culligan
Benjamin Hengst
Julia Burch
Kathryn Sargeant
William Charmley
Gonzalez, Gail
Robin Moran
Michael Olechiw
Macara Lousberg
David Cozzie
Lisa Biddle
Chris Clark

Members of the SAB Work Group

Dr. Rodney Andrews
Dr. Deborah Bennett
Dr. Bob Blanz
Dr. Todd Brewer
Dr. Joel Burken
Dr. Alison Cullen (chair)
Dr. John Graham
Dr. Merlin Lindstrom
Mr. Richard Poirot
Dr. Richard Smith

Thomas Carpenter, DFO, SAB Staff Office

Questions for the Office of Water

Peak flow Management 2040-AF81

The following questions were asked by SAB members Drs. Todd Brewer and Bob Blanz. EPA staff (Lisa Biddle and Chris Clark) provided verbal responses. Written responses to the SAB questions had not been provided by EPA.

Question: How will the “consistent national approach” that provides for efficient treatment plant operations” deal with the variety of engineering processes employed at POTWs across the nation?

EPA Response: EPA staff indicated that the Agency had completed some stakeholder input sessions. The agency had taken six months to do outreach. Three listening sessions had been held as well as roundtables. EPA staff indicated that it was still early in the rulemaking process and the agency had not yet had a chance to flesh out stakeholder input to develop answers to the SAB question.

Question: Since wet weather flows are usually dilute, it is often difficult, if not impossible to achieve the 85% removal of BOD5 and TSS required by the current regulations during these periods. What scientific information will EPA use to establish minimum alternative removal requirements (e.g., on duration and frequency)?

- Many small POTWs do not have timely sampling or responsiveness for stormwater events.
- What are the time frames on the averages of influent and removals?

EPA Response: agency staff stated that they had asked states and permittees for information on what they were seeing and how permits would be handled.

Dr. Blanz noted that EPA had held listening sessions and he asked what kind of feedback had been received about removal efficiency.

EPA Response: EPA staff responded that they were still waiting to receive written comments.

Dr. Brewer asked EPA staff whether the Agency had information about timeframe averages for influent and removal.

EPA Response: staff responded that they had not developed anything formal about the path forward for management of wet weather events.

Question: How will the “potential health effects of inadequately treated sewage be quantified and compared to alternative treatment and/or operational scenarios?

- What are the specific health drivers?
- Relative to noted health concerns that are not yet quantified?
- Are health effects primary (direct) or secondary (indirect), such as harmful algal blooms that may have other drivers as well. If secondary, have health issues been apportioned?

EPA Response: agency staff stated that the engineering analysis and cost analysis must be evaluated in order to answer the SAB questions. EPA staff noted that this information had been requested from states and utilities. They indicated that the Agency was waiting to receive it.

Dr. Cullen asked what the timeframes were for receipt of this information.

EPA Response: EPA staff responded that the comment period would close soon and they expected to have a full accounting of information in the docket. EPA staff indicated that the comments being received were for the pre-proposal. Staff indicated that there would be another comment period when the rule was proposed. The proposed rule was expected to be released in the summer.

SAB members noted that they had asked some questions about specific health drivers and asked whether EPA had additional information about specific health drivers.

EPA Response: EPA staff responded that they did not have anything specific to add.

Clean Water Act Section 404 2040-AF83

SAB members on the call noted that they had received a written response to the following question from the Office of Water but needed some additional information on specific points.

SAB recognizes that this regulation is likely to be largely procedural and administrative in nature as the 404/401 program is well established. The EPA brief description indicates that the “rule would clarify and discern” the extent of waters assumed by states/tribes. Will the regulation be promulgated in conjunction with the USACE, and if so, or if not, what are the scientific principles that are being applied for identification of assumable retained waters?

EPA Response: No, this will not be a joint rule with the USASCE. These regulations are EPA regulations; however, we will coordinate with the USACE about the draft prior to interagency review and during review.

We will be clarifying Clean Water Act Section 404(g)(1) and will propose to establish an administrative line regarding who the permitting authority will be. The agency does not anticipate applying scientific principles to the identification of assumable/retained waters.

Dr. Blanz indicated he appreciated the written responses that had been provided and asked how EPA intended to establish administrative boundaries for permitting jurisdiction.

EPA Response: Kathy Hurl from the Office of Water responded. She indicated that an advisory committee had been convened and provided recommendations on what the administrative boundaries should be. It was recommended that the EPA take an approach similar to the one used by the State of New Jersey. Under this approach, an administrative boundary was drawn to identify wetlands and adjacent wetlands within 1000 feet of a water for which the Corps of Engineers retains permitting jurisdiction. She noted that any permit issued would comply with the Clean Water Act. The regulation would establish an administrative boundary to determine permitting jurisdiction. She stated that EPA will be taking comments on how this should be done. She stated that in this regulation, EPA was not defining waters that would be regulated, that is

another question that would be addressed in the Waters of the U.S. rule. This rule would determine who is responsible for issuing 404 permits (state or tribe or the Corps of Engineers).

Dr. Blanz thanked EPA staff for the clarification and indicated that he had no further questions.

Questions for the Office of Air and Radiation

Oil and Natural Gas Sector: Emission Standards for new, Reconstructed, and Modified Sources Review 2060-AT90

Dr. Deborah Bennett of the SAB workgroup reviewed the written responses that had been provided by EPA Staff responded to the following questions.

Can the agency provide any additional information on the scientific and technical work products that will support the adequacy of 2060-AT90?

EPA Response: The action is focused on policy issues and not technical ones, therefore the agency does not anticipate additional scientific or technical work products.

Does the agency anticipate that planned action 2060-AT90 will address all the scientific and technical issues identified in the public comments received for 2060-AT54 or are additional actions planned?

EPA Response: No, 2060-AT90 will not address scientific or technical issues identified in the public comments received for 2060-AT54. 2060-AT90 will propose regulatory changes independent of the proposed changes in 2060-AT54. The 2050-AT90 proposal is to consider whether the 2016 rule OOOOa appropriately considered policy issues related to the challenges of regulating multiple pollutants across multiple segments of a complex industry. 2060-AT54, if finalized, will address scientific or technical issues identified in the public comments received as a result of the proposed (2060-AT54) rule.

Can the agency provide any information regarding the differences in scientific and technical information that was used in the development of promulgated actions 2060-AS30 and 2060-AT29, that were previously reviewed by the SAB and identified in the June 21, 2018, letter to Administrator Pruitt and the current planned action, 2060-AT90?

EPA Response: The key difference is that 2060-AT90 is primarily a policy action that does not involve additional analysis beyond cost, benefits and recordkeeping burden. The agency anticipates soliciting comment on a lead policy option for the regulation of greenhouse gases and the sector regulatory structure and an alternative policy option under consideration. This is different from 2060-AS30 and 2060-AT29 which were primarily technical actions and had supporting information to help inform available emission control technologies or their potential levels of effectiveness.

Furthermore, OAR included an update on this action to the Clean Air Act Advisory Committee (CAAAC) at its September 26, 2018 meeting. This included an update on the oil and gas rule highlighting the targeted improvements proposal that was published on September 11, 2018, noting the proposal addressed near-term issues and additional fixes.

Dr. Bennett noted that the description of the action indicated that it was related to challenges of regulating multiple pollutants among segments of a complex industry. She commented that this should involve technical issues. She indicated that there appeared to be a need for some sort of modeling effort regarding multiple pollutants. She commented that if it just involved costs and benefits there would be technical input required for looking at those costs and benefits. She asked EPA whether there was anything technical in nature regarding the consideration of costs and benefits.

EPA Response: Kevin Culligan responded that the agency was looking at questions of regulatory efficiency (i.e., how best to look at regulation when there was overlap, for example, in control strategies for VOC and methane). For example, does it make sense to have a second standard when there is much overlap between two control strategies? How do you monitor? How do you set limits? The questions about complexity in the industry tend to be questions about multiple owners when you move from collection to distribution. These are not necessarily scientific questions. They are questions dealing with the best way to regulate from the perspective “what is enforceable and understandable?.” There are scientific questions concerning the detection of leaks but that is not something EPA is addressing in this rule.

EPA staff indicated that you have a mixture of pollutants that includes the methane and VOC. The methods to detect and control leaks are the same regardless of the pollutants.

Dr. Bennett commented that it was not clear how EPA would be addressing questions about multiple owners

EPA Response: EPA staff responded that it was becoming clear when looking at different segments of the industry with multiple owners, it might be better not to treat them all the same way. This focuses more on corporate structure and how the industry works than science.

Dr. Cullen noted that the EPA Clean Air Act Advisory Committee had met and received an update on the oil and gas rule. She asked whether materials were available from that meeting.

EPA Response: EPA staff responded that the Clean Air Act Advisory Committee (CAAAC) had met and materials were available on the CAAAC website (www.epa.gov/caac). EPA staff noted that the answers provided to the SAB workgroup provided the agency’s thinking about why the issues addressed in the rule were not scientific.

Mercury and Air Toxics Standards for Power Plants Residual Risk and Technology Review Cost Review 2060-AT99

Dr. Cullen noted that SAB workgroup members Drs. Smith and Graham had questions concerning this rule. Dr. Smith indicated that the following workgroup question submitted to EPA had asked whether there were additional documents available:

Are there additional documents that the SAB should review relevant to scientific and technical adequacy of the planned action in addition to those listed on the last page of EPA’s description of the planned action?

Dr. Smith indicated that the additional document the workgroup wanted to see was the proposed rule. He asked whether that was available.

EPA Response: The agency's written response stated that there are no additional documents that the SAB should review relevant to scientific and technical adequacy of the planned action in addition to those listed in 6(d) of EPA's description of the planned action. However, document (6) listed in 6(d) of EPA's description has been updated to indicate that "A review of specific enhancements made to the RTR risk assessment methodologies, particularly with respect to screening methodologies, since the 2009 SAB review was completed in 2018. In response to Dr. Smith's question, EPA staff noted that a rule was going through interagency review, but it was not yet available for SAB review.

Dr. Smith indicated that the workgroup had asked the following second question and noted that he had a concern about the EPA's written response. He commented that it seemed additional scientific data would need to be considered, and he questioned whether the SAB should be reviewing new scientific information that had become available since 2012.

Are there new, unique or specific data underlying the MATS rule that have not been peer reviewed and can the agency provide any additional information on plans to review these data? Please give more detail about how EPA proposes to peer review and incorporate these data in the Risk and Technology Review.

EPA Response: EPA's written response stated that the agency was using data submitted by power companies as part of their compliance requirements. This data has been quality assured consistent with requirements that were promulgated through rulemaking processes with a public review. Further, since these data are being submitted for compliance purposes, there are legal consequences to submitting incorrect data. In response to Dr. Smith's comment, EPA staff indicated that the scope of the rulemaking was different than the 2012 rulemaking. A supplemental cost finding was being addressed and EPA was not using any new scientific information to do that. EPA was also looking at available information to look at residual risk and technology.

Dr. Smith responded that he thought the SAB should be reviewing this rule. He noted that the cost considerations included the question of co-benefits. Even without that consideration he commented that he was surprised there were no new data being considered.

EPA Response: EPA responded that the agency was responding to the court, which had asked whether the MATS rule had previously been drawn up in the right manner. The court said EPA should have considered costs and questioned what the appropriate role of costs should have been. EPA was not looking at the underlying decision.

Dr. Graham stated that it was not clear why the rule had to get into co-benefits.

EPA Response: Agency staff responded that there were a lot of different ways that people had looked at costs. The agency is considering the appropriate ways to look at costs. EPA is not addressing how to quantify co-benefits.

Dr. Graham commented that it seemed that the SAB should be looking at the proposed rule when it comes out. EPA responded that there would be a proposed rulemaking.

Mr. Poirot asked how EPA would consider the costs of an old regulation that had effective compliance. He noted that some sources had probably shut down completely. He asked how costs would be considered after many of them had already been incurred?

EPA Response: EPA staff responded that much of the analysis concerns reconciling how the court feels the agency should have done something. The next action can then start from the position of what the court thinks EPA should have done. Much of this will affect future rulemaking.

Mr Poirot asked whether the 2016 cost analysis motivates this or is it being considered as new work.

EPA Response: EPA staff responded that the agency is again looking at the issue of cost while a case is held in abeyance.

Dr. Cullen asked EPA staff when the SAB might see the rule that is currently going through interagency review.

EPA Response: EPA staff responded that they did not have a date for when the proposed rule might get signed and published.

There were no further questions on the rulemaking.

Rulemaking to Establish Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy 2060-AU09

Workgroup member Dr. Lindstrom indicated that he had read the EPA response to the following workgroup question and asked whether EPA and NHTSA had harmonized their assumptions, or did they have separate assumptions as they went forward with the rule in 2012.

In regard to fleet electrification, what are the key differences in assumptions underlying the fleet EV/PHEV penetration for 2026 using the Argonne National Laboratory Automonie model compared to the assumptions underlying the 2012 rule? Relatedly, what is assumed about the future of federal and state financial and non-financial incentives to commercialize EV/PHEVs?

EPA Response: The EPA's written response indicated that in the recent Safer Affordable Fuel-Efficient (SAFE) vehicles proposal, the analysis using the Argonne National Laboratory Automonie model and its technical assumptions related to EV/PHEV penetration for 2026 were developed by NHTSA, and EPA has no further information at this time concerning technical assumptions other than what is available in NPRM and related docket materials. Similarly, EPA does not have specific information on how EV tax credits or other financial incentives may have been incorporated in the SAFE proposal analysis developed by NHTSA. EPA would be glad to provide more details regarding the assumptions made underlying previous assessments.

EPA further responded that in 2012 EPA and NHTSA made the same assumptions regarding battery pack cost and battery pack chemistry. They did independent modeling with common inputs.

Dr. Lindstrom asked whether EPA and NHTSA used the same input but might have used different models.

EPA Response: EPA responded that this was correct. For the 2012 joint rulemaking, EPA and NHTSA each used different models to project how firms might use technologies to meet the future standards. Different modeling tools were used for future projections, but they largely had common inputs.

Dr. Lindstrom asked EPA whether the agency's response to the second question (below) on price increases due to tariffs could be summarized by stating that the agency would continue to look at this issue as it went through the rulemaking process.

New vehicle cost is a key component of fleet dynamics. Is EPA taking into consideration any long-term effects of price increases due to trade/tariff economics on the vehicle prices and subsequent cost of new technology implementation. Also, is the growing global demand for rare earths and other inputs to EVs likely to change the forecasted cost of producing EVs?

EPA Response: EPA's written response was that in the SAFE NPRM, the agencies did not consider the effects of price increases due to trade/tariffs on vehicle prices. EPA is aware of at least one recent study on this issue conducted by the Center for Automotive Research in July 2018, "Trade Briefing: Consumer Impact of Potential U.S. Section 232 Tariffs and Quotas on Imported Automobiles and Automotive Parts." To the extent that EPA receives public comments on this issue related to the SAFE rule, the agency will consider how to address those comments for the final rule.

With regard to rare earth materials and other inputs to battery electric vehicles (BEVs), we note that in the 2016 Draft Technical Assessment Report (TAR), EPA included a summary of the potential for cost reductions by automakers' efforts to reduce the content of rare earths in production vehicles.

Since the 2016 TAR, EPA has followed more recent examples of auto manufacturers successfully reducing the content of rare earth minerals. For example, Tesla's induction machine designs include some of the highest power density electric machines used in automotive applications (e.g., Tesla roadster, some versions of the Model S and Model X).

Lithium supply is another area in which EPA has continued to monitor the literature and other information sources. EPA discussed this issue in the 2016 TAR at section 5.2.4.4.8 (Potential Impact of lithium Demand on Battery Costs). EPA will continue to keep abreast of the latest information on these topics.

EPA staff further indicated that the agency may have the opportunity to further consider these issues but did not yet know how all of them would be addressed in the final rule.

Dr. Lindstrom asked EPA whether these issues would be considered in the final rule.

EPA Response: Agency staff responded that the issues may be considered.

Dr. Lindstrom referred to the following question concerning how EPA, NHTSA, and California would harmonize a national program. He indicated that the agency had provided a good written response to the question.

What approaches or models will EPA, NHTSA, and California use to harmonize to a national program, and how will the assumptions underlying those approaches or models be reviewed? As efforts are made to bring EPA, NHTSA, and the California Air resources Board into a single harmonized program, will each agency undertake their own scientific and technical modeling, or will the agencies be asked to collaborate on scientific and technical modeling?

EPA Response: The agency's written response stated that the agency remains committed to participating in joint discussions with NHTSA and CARB and that EPA has not yet made any decisions on how the agency will approach the analysis of GHG standards that will support a final rulemaking.

Additionally, OAR presented to the CAAAC at its September 27 meeting on the proposed SAFE rule consistent with the CAAAC's chartered objective to provide advice, information, and recommendations on policy and technical issues associated with implementation of the Clean Air Act. OAR answered CAAAC member questions and provided further clarification on this action.

EPA staff reiterated that there was an ongoing effort to harmonize approaches, but it was not yet possible to say what the outcome would be.

Dr. Lindstrom indicated that he had no further questions.

Dr. Cullen asked whether Dr. Graham had additional questions about this rulemaking. He responded that he had no questions.

Dr. Cullen indicated that, with regard to regulatory action 2080-AA14, Strengthening Transparency in Regulatory Science, the SAB was waiting to receive the Administrator's response to the SAB letter sent on June 28, 2018. That letter expressed the SAB's wishes to provide advice and comment on the scientific and technical adequacy of the proposed rule.

Treatment of Biogenic CO₂ Emissions Under the Clean Air Act Permitting Programs 2060-AU03

SAB workgroup member Dr. Andrews noted that EPA had provided the following response to the SAB question and asked EPA staff when they expected to have documents available for the SAB to review.

Does the proposed action utilize a new scientific basis, separate from the existing Framework for Assessing Biogenic CO₂ Emissions from Stationary Sources (2014) underlying the declaration of managed forest derived biomass as carbon neutral?

EPA Response: The EPA responded that it was early in the process of developing a proposal and the agency currently does not have information to respond to this question. EPA staff noted that this action will follow the agency's April 2018 Policy Statement, which announced the EPA's policy to treat biogenic CO₂ emissions resulting from the combustion of biomass from managed forests at stationary sources for energy production as carbon neutral.

EPA staff further indicated that the agency was early in the process of developing a rule that would come out of the Administrator's policy statement. The policy statement followed a letter to the Governor of New Hampshire. This stemmed from language in the 2017 appropriations act which provided direction from Congress about recognizing biomass as being carbon neutral. Agency staff indicated that the rulemaking will deal with permitting. Feedback received from the SAB on the biogenic carbon framework document may or may not play a role in any rulemaking going forward because the rulemaking is centered on the policy position taken earlier. It is too early to say whether any scientific information will go into the rulemaking.

General National Ambient Air Quality Standards Implementation Update Rule 2060-AU10

Dr. Cullen called for questions from the workgroup on action 2060-AU10. Dr. Graham indicated that he was satisfied with the following answers to the workgroup questions. He had no further questions.

The workgroup notes that the agency has not determined a time table or identified scientific work products to inform decisions regarding the planned action. Has the agency received advice from any of the other high-level external review bodies (i.e., national Academy of Sciences, Clean Air Act Advisory Committee, or Clean Air Scientific Advisory Committee) on the planned action?

EPA Response: No. this action is a placeholder for one or more potential proposed rulemakings to address NAAQS implementation-related policies determined by the Administrator as necessary to fully realize the benefits of strategies to streamline and reduce burden, and in response to adverse court decisions. No specific action has been identified at this time.

Is the agency considering engaging in any of these external review bodies to review work products to support the scientific and technical adequacy of the planned action?

EPA Response: Not at this time. As noted above, this action is a placeholder for one or more potential proposed rulemakings to address NAAQS implementation-related policies determined by the Administrator as necessary to fully realize the benefits of strategies to streamline and reduce burden, and in response to adverse court decisions. No specific action has been identified at this time. Moreover, OAR provided an additional summary to the CAAAC at its September 27, 2018 meeting on the pending actions on NAAQS while noting the Clean Air Scientific Advisory Committee (CASAC) provides independent advice to the EPA Administrator on the technical bases for EPA's National Ambient Air Quality Standards.

Dr. Cullen asked EPA to describe how upcoming NAAQS reviews would be handled (given that changes were being made in the process).

EPA Response: EPA staff responded that the agency was in the process of reviewing NAAQS for several pollutants. Staff noted that: the NAAQS for sulfur dioxide was under review, a review had been initiated for ozone, and the particulate matter (PM) standard that had previously been reviewed in 2012 was also under review. The Administrator has called for completion of the ozone and PM reviews by the end of 2020. The CASAC is involved in reviewing the NAAQS for these pollutants. EPA staff noted that the seven-member CASAC would be advising EPA in the review of the PM standard. EPA staff noted that action AU10 deals with the implementation of the air quality standards. The rulemaking is a placeholder for flexibility that could be provided to states in implementing standards in order to make the process faster and more efficient.

EPA staff commented that the agency was implementing some changes in process to make the EPA-CASAC interaction more efficient and effective.

There were no further questions for EPA from workgroup members.